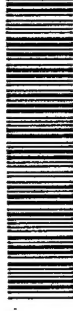


DENON

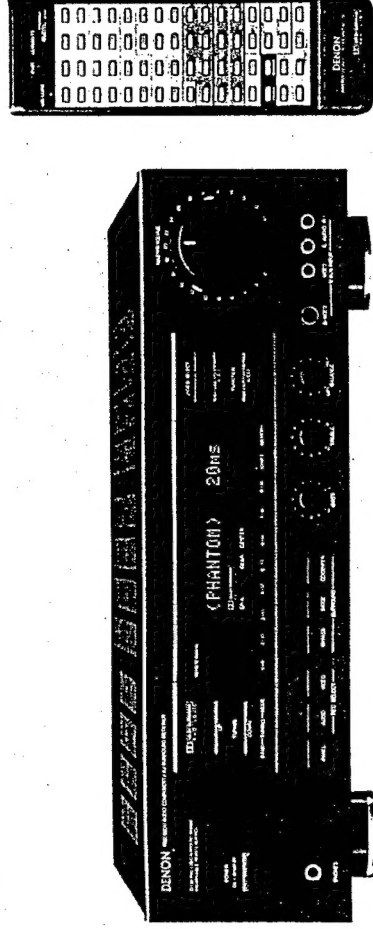


DENO-00183

Hi-Fi AV Surround Receiver

MODEL AVR-810/810G

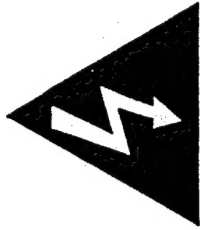
AV SURROUND RECEIVER



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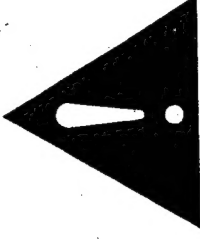
NIPPON COLUMBIA CO., LTD.



CAUTION

RISK OF ELECTRIC SHOCK

DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICE-ABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION

TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION

POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

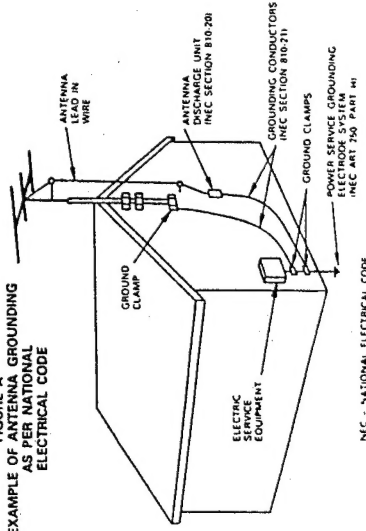
IMPORTANT SAFEGUARDS

1. Read Instructions – All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions – The safety and operating instructions should be retained for future reference.
3. Heed Warnings – All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions – All operating and use instructions should be followed.
5. Cleaning – Unplug this video product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. Attachments – Do not use attachments not recommended by the video product manufacturer as they may cause hazards.
7. Water and Moisture – Do not use this video product near water—for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.
8. Accessories – Do not place this video product on an unstable cart, stand, tripod, bracket, or table. The video product may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the video product. Any mounting of the appliance should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.



- 8A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
9. Ventilation – Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the video product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the video product on a bed, sofa, rug or other similar surface. This video product should never be placed near or over a radiator or heat register. This video product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
10. Power Sources – This video product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For video products intended to operate from battery power, or other sources, refer to the operating instructions.
11. Grounding or Polarization – This video product is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
12. Power-Cord Protection – Power-Supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

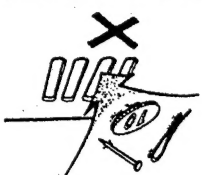
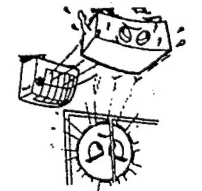

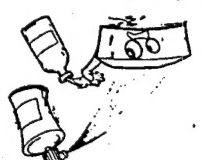


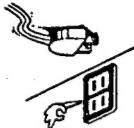

FIGURE A
EXAMPLE OF ANTENNA GROUNDING
AS PER NATIONAL
ELECTRICAL CODE



NEC - NATIONAL ELECTRICAL CODE

13. Protective Attachment Plug – The appliance is equipped with an attachment plug having overload protection. This is a safety feature. See Instruction Manual for replacement or resetting of protective device. If replacement of the plug is required, be sure the service technician has used a replacement plug specified by the manufacturer that has the same overload protection as the original plug.
14. Outdoor Antenna Grounding – If an outside antenna or cable system is connected to the video product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.
15. Lightning – For added protection for this video product receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video product due to lightning and power-line surges.
16. Power Lines – An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
17. Overloading – Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
18. Object and Liquid Entry – Never push objects of any kind into this video product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind of the video product.
19. Servicing – Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
20. Damage Requiring Service – Unplug this video product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power-supply cord or plug is damaged.
 - b. If liquid has been spilled, or objects have fallen into the video product.
 - c. If the video product has been exposed to rain or water.
 - d. If the video product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.
 - e. If the video product has been dropped or the cabinet has been damaged.
 - f. When the video product exhibits a distinct change in performance – this indicates a need for service.
21. Replacement Parts – When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
22. Safety Check – Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine that the video product is in proper operating condition.

NOTE ON USE

<p>Do not allow foreign matter into the equipment</p> <ul style="list-style-type: none"> • Be especially careful of needles, hair pins, and coins getting into the set. 	<p>Be careful of high temperatures</p> <ul style="list-style-type: none"> • Do not place the set in a location where it will be exposed to direct sunlight or near a heating appliance. • Caution on rack/cabinet installation: Avoid installing the set in a closed-type rack. • When installing in a rack or cabinet, provide a sufficiently large ventilation opening to promote heat radiation. 	<p>Care with the power cord</p> <ul style="list-style-type: none"> • When removing the plug from the receptacle, do not pull the power cord; be sure to hold the plug when removing it. 	<p>Care of the case</p> <ul style="list-style-type: none"> • Avoid the use of pesticides near the set as well as wiping the case with benzine, thinner or other solvents since they may cause a change in quality or color. Use a soft cloth when wiping away dirt and follow the instructions carefully. • When using chemically treated clothes, 	<p>Caution on humidity, water, and dust</p> <ul style="list-style-type: none"> • Do not place the set in a location where there is high humidity or a lot of dust. • Flower vases or other items containing water should not be placed on top of the set. 	<p>Do not block the ventilation holes of the set</p> <ul style="list-style-type: none"> • Blocking of the ventilation holes will lead to damage of the set. • The ventilation holes are very important for heat radiation from within the set. Care must be taken since placing an object against the holes will result in an extreme rise of temperature within the set. 	<p>During your absence</p> <ul style="list-style-type: none"> • When not using the set for an extended period such as when taking a trip, be sure to disconnect the plug from the receptacle. 	<p>Do not open the case</p> <ul style="list-style-type: none"> • Opening the top cover or the bottom plate of the case and inserting your hand is dangerous. Do not open the case. • If some trouble arises with the performance of the set, remove the power plug soon and contact the store where the set was purchased, or a nearby dealer. 
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1 BEFORE USING

- Read the following cautions carefully before using the receiver:
- Moving the set
 - Be sure to unplug the power cord and disconnect other cords connecting the receiver to other audio units before moving the receiver to prevent damaging or short-circuiting the cords.
 - Check again to make sure that all connections are correct and that there are no problems with the connection cords. Be sure to turn the power OFF before disconnecting or connecting cords.
 - Retain the operating instructions
 - After reading this manual, store it in a safe place. The illustrations used in this manual may differ somewhat from the actual receiver.

Check that the following parts are included in the package aside from the main unit:

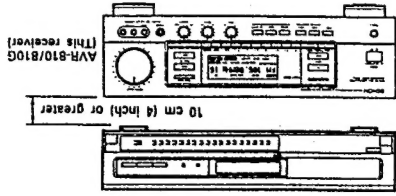
1	Operating Instructions
2	Remote control unit (RC-139)
3	Batteries (R6P/AA)
4	AM loop antenna
5	FM antenna adapter
6	FM indoor antenna
7	Specifications
8	Part names and functions of the remote control unit
9	System call buttons
10	System code buttons
11	System call buttons
12	System code buttons
13	System call buttons
14	System code buttons
15	System call buttons
16	System code buttons
17	System call buttons
18	System code buttons
19	System call buttons

- CONTENTS -

- Read this manual carefully to ensure that you take full advantage of all the features of this receiver. Keep the manual in a safe place for future reference.
- Be sure to check that the date of purchase and the store's name of purchase have been filled in properly on the warranty issued at your store of purchase.

2 INSTALLATION PRECAUTIONS

- Using this receiver or other electronic equipment containing microprocessors simultaneously with a TV may result in noise in the sound or picture. If this should happen, take the following steps:
 - Install the receiver as far as possible from the TV set.
 - Keep the antenna lines of the TV as far as possible from the receiver's power cord and connection cables.
 - This problem is especially frequent when using indoor antennas or 300 ohm feeder lines. We recommend using outdoor antennas and 75 ohm coaxial cables.



A note on stacking

For cooling purposes, do not place another AV component directly on top of the receiver. Be sure to leave a space of at least 10 cm (4 inch).

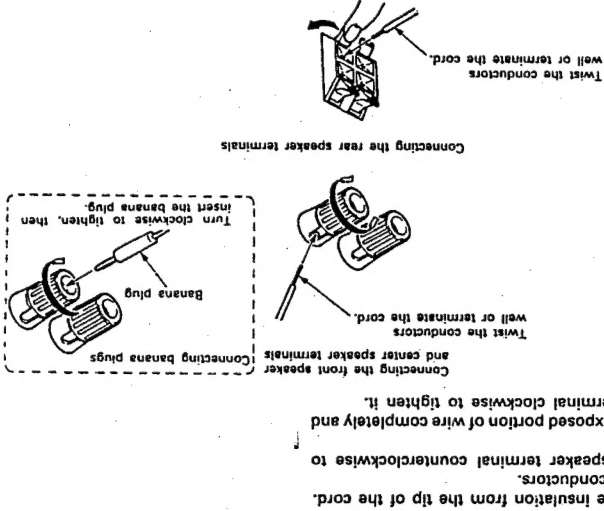
3 HANDLING PRECAUTIONS

- Switching the input function when the input jacks are unconnected
 - Switching the input function when a component is not connected to the input jacks may result in the generation of click noise. If this should happen, turn down the MASTER VOLUME or connect a component to the input jacks.
- Playback with Dolby Pro Logic
 - The Dolby Pro Logic position provides optimum effectiveness for sources recorded with Dolby Surround. A different surround mode should be selected when playing back sources other than this type. Note in particular that when playing back monaural recording sources, the bypass mode or the simulated mode should be used. Other modes will not provide a suitable effect.
- Muting of the PRE OUT jacks
 - An electronic muting circuit has been connected to the PRE OUT jacks. This circuit greatly attenuates the output signal for approximately 7 seconds after the power has been switched on. Raising the volume during this operation will result in an extremely large output once the muting has ended, so volume adjustments should be made only after the completion of muting.
- Rear output level while in the surround mode
 - The rear level will seem small for sources other than Dolby Surround sources. The reason for this is that a rear playback signal is not contained in the software. When playing back such software with a surround function, the mode should be set to something other than Dolby Pro Logic surround. The rear output level may seem small for software having a small rear signal, even Dolby Surround sources.

4 CONNECTIONS

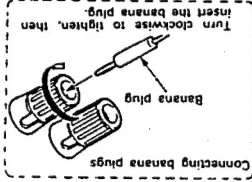
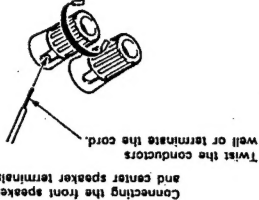
Speaker System Connections

- This receiver can accommodate connections of a total of five speakers including one set of front speakers, one set of rear speakers, and one center speaker.
- Connect the speaker terminals with the speakers making sure that like polarities are matched (+ with +, - with -). Mismatching of polarities will result in weak central sound, unclear orientation of the various instruments, and the sense of direction of the stereo being impaired.
- Speakers with an impedance of 6 to 12 ohms can be connected for use as front, center and rear speakers.
- The protection circuit may operate or damage may occur when speakers with an impedance outside of the above range are used.

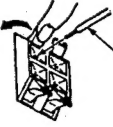


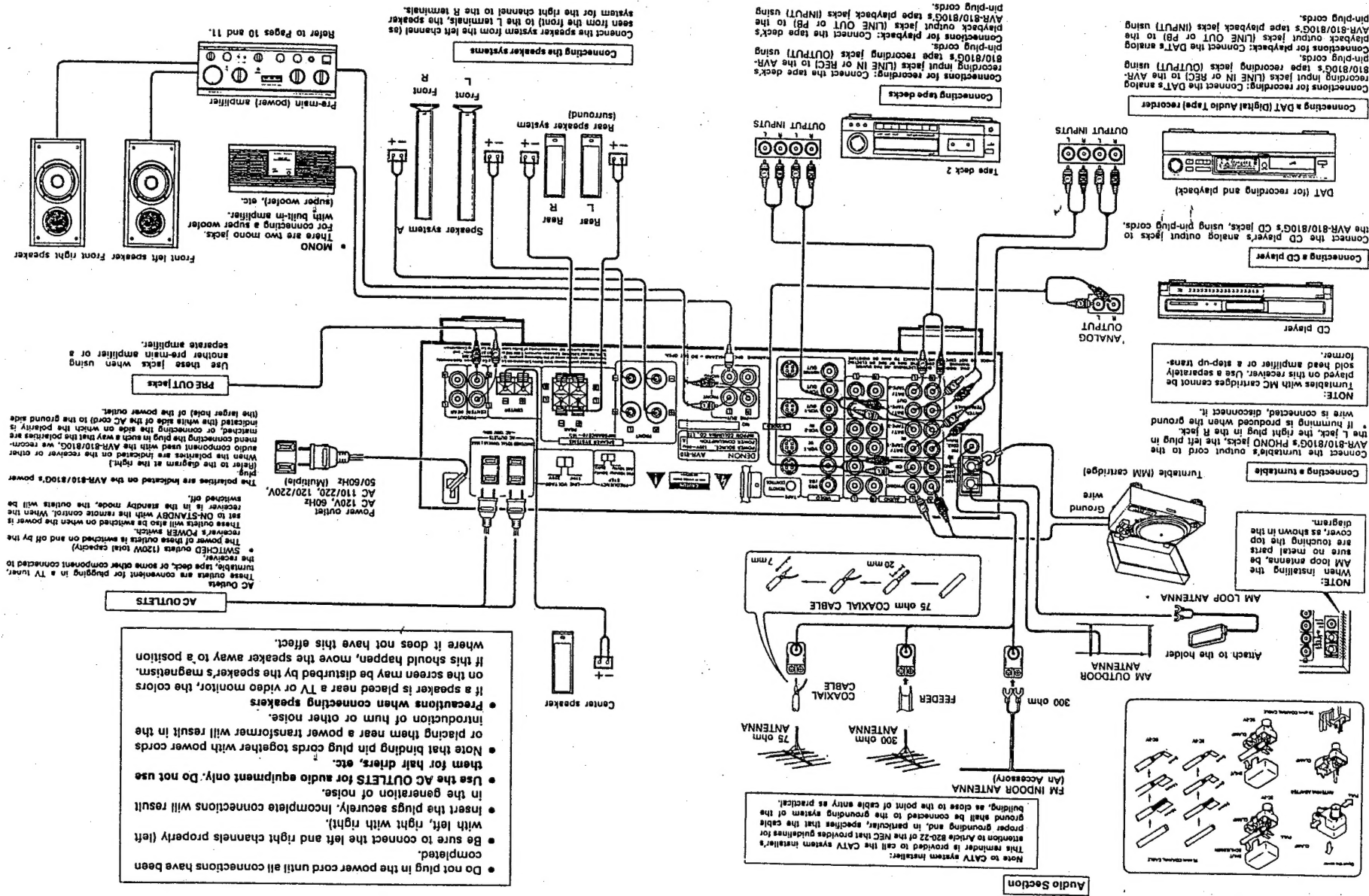
- Peel off the insulation from the tip of the cord.
- Twist the conductors.
- Turn the speaker terminal counterclockwise to loosen it.
- Insert the exposed portion of wire completely and turn the terminal clockwise to tighten it.

Connecting the front speaker terminals



Connecting the rear speaker terminals

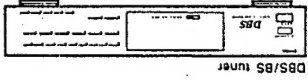




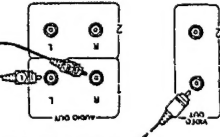
Video Section

Connecting a DBS/BS tuner

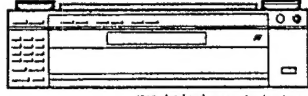
- Connect the DBS/BS tuner's video output jack to the receiver's VIDEO DBS/BS-IN jack (yellow) using a 75 ohm video coaxial cable pin-plug cord.
- Connect the DBS/BS tuner's audio output jacks to the receiver's AUDIO DBS/BS-IN jacks using pin-plug cords.



- Connect the video disc player's S-video output jack to the receiver's S-VIDEO VDP-IN jack using an S-jack connection cord.
- Connect the video disc player's video output jack to the receiver's VIDEO VDP (yellow) jack using a 75 ohm video coaxial cable pin-plug cord.
- Connect the video disc player's analog audio output jacks to the receiver's AUDIO VDP jacks using pin-plug cords.



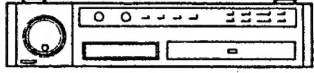
LD player, CDV player, etc.



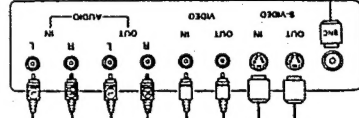
The AVR-810/810G is equipped with VIDEO AUX jacks on the front panel for playback of video equipment. This makes it possible to connect video cam-corders with playback functions as well as other equipment. The connections are the same as for a VDP.

Connecting video decks (VCR)

- There are two sets of VCR jacks, allowing connection of two video decks for simultaneous recording and video copying.
- Connect the video deck's video output jack to the receiver's VCR-1 IN jack (yellow) and the video deck's video input jack to the receiver's VCR-1 OUT jack (yellow) using 75 ohm video coaxial cable pin-plug cords.

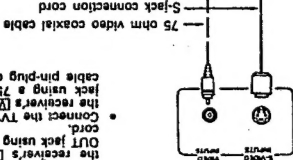


Video deck 1 with S-jacks

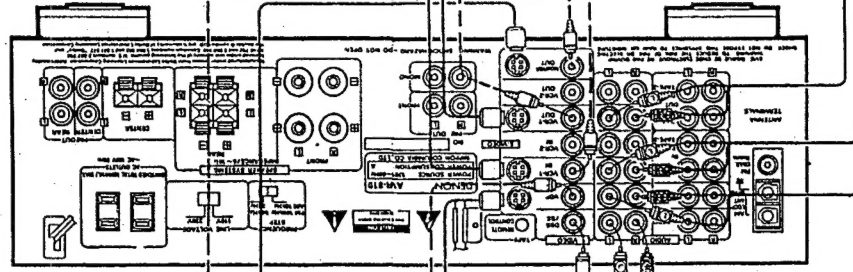


Connecting a monitor TV

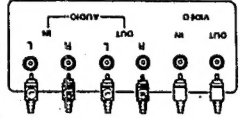
- Connect the TV's S-video input jack to the receiver's S-VIDEO MONITOR OUT jack using an S-jack connection cord.
- Connect the TV's video input jack to the receiver's VIDEO MONITOR OUT jack using a 75 ohm video coaxial cable pin-plug cord.



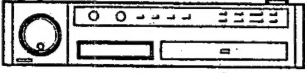
S-jack connection cord



Connect to the VCR-2 jacks in the same way as for video deck 1.



Video deck 2



Connect the video deck's S-output jack to the receiver's S-VIDEO IN jack and the video deck's S-input jack to the receiver's S-VIDEO OUT jack using S-jack connection cords.

- Connect the video deck's audio output jacks to the receiver's AUDIO VCR-1 IN jacks and the video deck's audio input jacks to the receiver's AUDIO VCR-1 OUT jacks using pin-plug cords.
- A second video deck may be connected to the VCR-2 jacks in the same way.

A note on the jacks

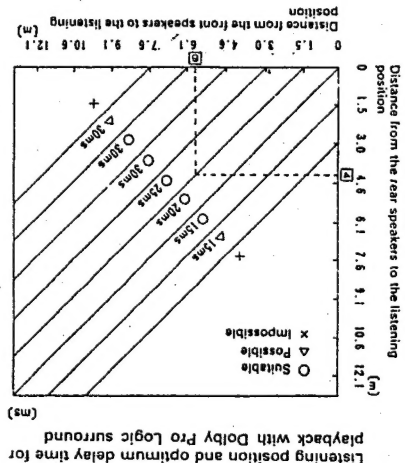
- The input selector for the S inputs and that for the pin jack inputs work in conjunction with each other. When a source without an S input is selected, no signal is output to the S-jack MONITOR OUT jack.

Caution on using S-jacks

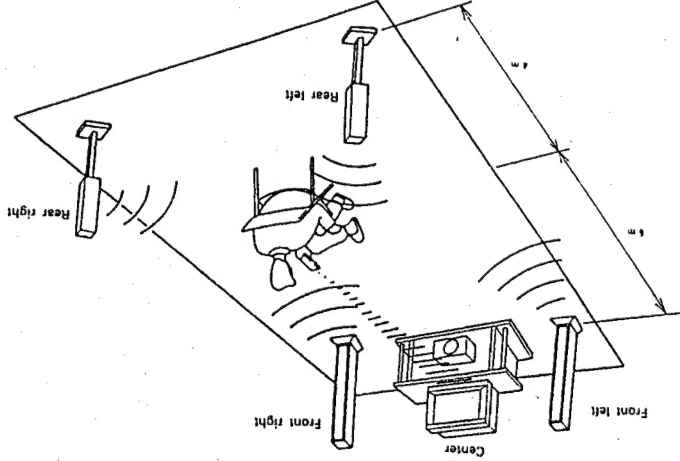
The S input and output jacks and the pin-jack input jacks are only output from the S output independent circuits, so the signals input to the S input jacks are only output from the pin-jack output jacks. Remember this when connecting the AVR-810/810G to a component equipped with S jacks, and refer to the manuals of the different components.

5 DOLBY PRO LOGIC SURROUND

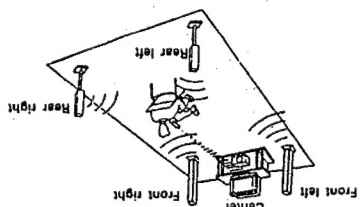
• Setting the delay time
The optimum delay time will differ depending on the listening position. Referring to the right chart, set the optimum delay time for your room's space and setting position. For example, when the distance from the front speakers to the listening position is 5 m and that from the rear speakers to the listening position is 4 m, the optimum delay time will be 20 ms.



• Adjustment of the Input Balance
This unit is equipped with an auto input balance circuit which makes the need for adjustment of input balance unnecessary.
The AUTO BALANCE indicator in the display will light up when the auto input balance operation is active.

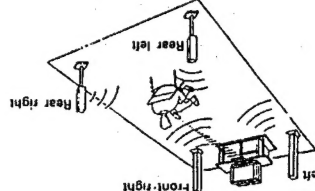


• Speaker arrangement
Ideally, center speakers should be used for Dolby Pro Logic surround playback.



NORMAL mode

Normal mode: This mode is suited for an arrangement in which the center channel speakers are smaller than the left and right speakers. Signals below 100 Hz which have almost no effect on directional orientation are distributed to the left and right channels, whereas the center channel outputs signals greater than 100 Hz. The bass of the left and right channels increases the apparent deepness of the sound.

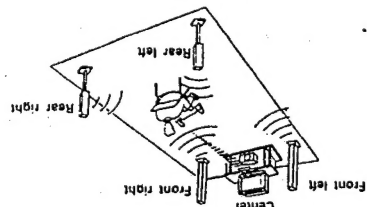


PHANTOM mode

Phantom mode: Use this mode when center channel speakers are not used. A directional emphasis circuit provides signal reproduction which is electrically oriented to the center and this achieves an effect which is extremely close to that of five-channel reproduction although there are four channels.

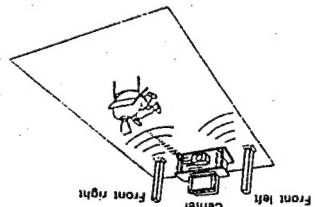
• Test tone
The test tone function is used to generate a test signal for adjusting the level of each channel in the Dolby Pro Logic surround mode.
Before using Dolby Pro Logic surround, arrange the speakers as illustrated above and follow the procedure given here. Using the test tone, set the optimum volume balance for each speaker and set the volume and other controls so that each speaker can be heard at the same level.
In the normal and wide modes the test tone is provided as the speakers are switched in the following order:

Adjustment of the test tone should be made with the remote control unit (RC-139).



WIDE mode

Wide mode: This mode is suited for an arrangement in which the center channel speakers are of the same grade as the left and right speakers. The entire sound band from low to high frequencies is output to the center channel to provide an exciting sound field for your enjoyment.



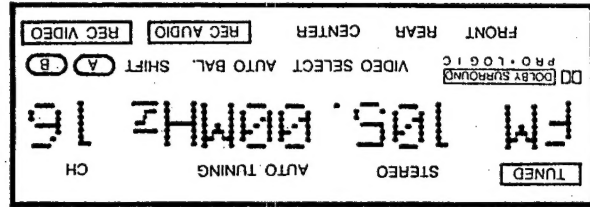
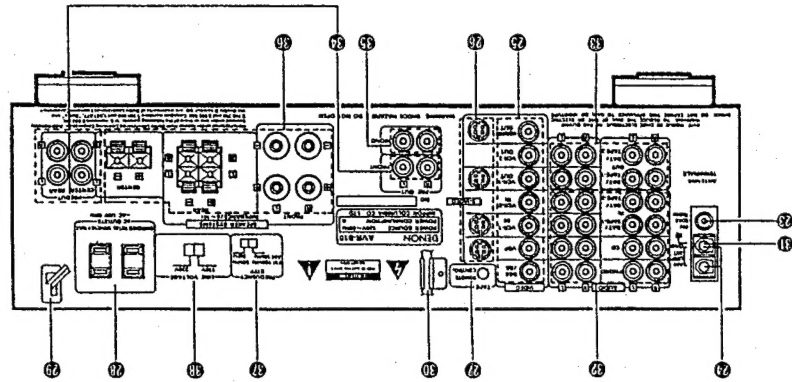
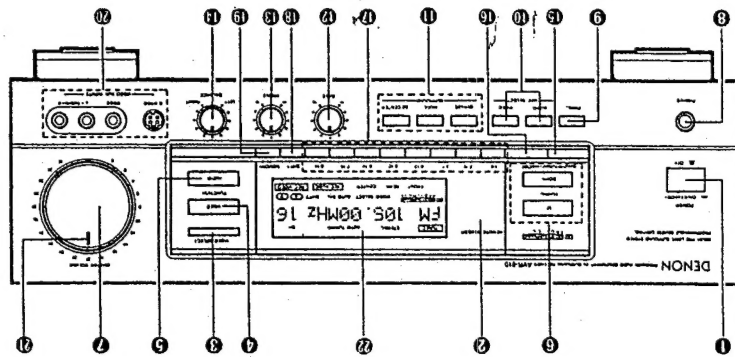
3-CH LOGIC

3-channel logic mode: Use this mode when rear channel speakers are not used. The rear channel information is fed to the front speakers to provide the surround effect.

Use this signal to adjust the volume balance and set an optimum balance.
In the phantom mode the test tone is provided as the speakers are switched in the following order:
Front left → Front right → Rear
In the 3-channel logic mode the test tone is provided as the speakers are switched in the following order:
Front left → Front right → Center → Front left → Front right

Note that this receiver provides the test tone at 4-second intervals for the first two cycles and for 2-second intervals thereafter.

9 PART NAMES AND FUNCTIONS



① POWER switch - ON/STANDBY

In this position, the power is on and the MASTER VOLUME LED is flashing. Several seconds are required after the power is turned on before the set will operate (the LED stops flashing and remains lit). This is because a built-in muting circuit is activated to prevent noise when the power switch is turned on and off.

Set the switch to this position when using the included remote control unit (RC-139) to turn the power on and off.

■ Off

In this position, the power and the LED are off. The power cannot be turned on and off with the remote control unit when the switch is in this position.

③ VIDEO SELECT

(Independent switching button for the video signal)
This button is used to switch the video signals independently of the audio signals. Holding this button down will cause the video input signals to be switched in the order shown below. When the desired video input signal is displayed on the (FLD) multi-function display, remove your finger from the button. Now, even if the AUDIO FUNCTION selector ④ is switched, the video signal will not change.
To cancel this condition, press the VIDEO SELECT button again or press the VIDEO FUNCTION selector ①.

⑨ PANEL button

Pressing this button provides a display of the current operating condition on the Display. Pressing this button will switch the Display. For details, see Page 11 to 12.

⑧ PHONES Jack

NOTE: This jack is used for headphone connections. When using headphones only, switch off the speakers with OUTPUT button on the remote control unit. See page 16.

⑨ TUNING (Tuning Buttons)

This button is used for switching the audio input positions. Pressing this button repeatedly or holding it down steadily will switch the input positions in the following sequence.

18 MEMORY (Memory Button)
This switch is used to store the desired radio station on a PRESET CHANNEL button. When pressing this button, the CH indicator flashing for approximately 5 seconds. During this interval, the desired station can be stored in the memory.

19 VIDEO AUX INPUTS (external video input jacks)
Connect the component's S-output jack to the receiver's S-VIDEO jack with an connection cord designed for S-jacks.
Connect the VIDEO jack with a 75-ohm coaxial cable to the component's S-video output jacks to the AUDIO jacks with pin-plug cords.

20 MASTER VOLUME LED

21 MULTIFUNCTION DISPLAY
The display indicates the tuner's reception frequency, the surround mode, the input and output data, etc., in up to 16 characters. Normally the reception frequency is displayed when the function is set to tuner, and the surround mode is displayed when the function is set to other positions.
The display also indicates various other information as necessary.
Refer to page 12 for details.

22 FM ANT. (FM Antenna Terminals)
Both 75-ohm coaxial cable and 300-ohm feeder can be connected to this terminal. For antenna connecting procedure, see the ANTENNA INSTALLATION.

23 AM ANT. (AM Antenna Terminals)
Connect the attached AM loop antenna. (Refer to page 8 for connections).
Connect to this terminal when a medium wave outdoor antenna is used.

24 VIDEO input/output jacks

25 S-VIDEO input/output jacks

TAPE/REMOTE CONTROL
This terminal is exclusively used for sending the remote control signals to the tape deck. Connect it with a 3.5mm mini-jack cord.
NOTE:
Do not hook up a headphones or microphone jack cord. Use this jack to connect a DENON cassette deck with a remote control jack (wired).
If the cassette deck does not have this jack, wired remote control is not possible.

1 BASS control
This control is used to adjust the bass level of the front speaker output or the PRE OUT FRONT jacks.
The bass is increased when the control is turned clockwise () and decreased when turned counterclockwise () from the center position.

2 TREBLE control
This control is used to adjust the treble level of the front speaker output or the PRE OUT FRONT jacks.
The treble is increased when the control is turned clockwise () and decreased when turned counterclockwise () from the center position.

3 BALANCE (Balance Control)
Use this control to balance the volume levels between front left and front right channels. The volume levels in both channels are equal when the control is set to the center position.

4 TUNING BAND (Tuning Band Selector Switch)
Press this switch to select FM or AM band.

5 TUNING MODE (Tuning Mode Switch)
This switch allows selection between Auto Tuning and Manual Tuning.
AUTO TUNING: Pressing the UP button, the tuner will begin tuning to a higher frequency and pressing the DOWN button, it will begin tuning to a lower frequency until a broadcast station is found.
MANUAL TUNING: Stations are tuned in manually by use of the UP and DOWN buttons. FM output is manual during MANUAL TUNING.

6 PRESET CHANNEL 1 ~ 16
(Preset Station Buttons)
These buttons are used for storing stations or recalling stations which have been preset. Using the SHIFT button you can preset a total of 16 FM or AM stations into preset channels 1 ~ 8 and 9 ~ 16.
Once a radio has been memorized on a PRESET CHANNEL button, the same station can later be tuned in instantly simply by pressing the corresponding PRESET CHANNEL button.

7 SHIFT (Shift Button)
Each time this button is pressed, the preset station range will be shifted between "1 ~ 8" and "9 ~ 16". (A: 1 ~ 8, B: 9 ~ 16)

1 DOLBY PRO-LOGIC (surround)

Use this setting when playing back video recording output jacks of DAT/TAPE 1 and 2. This button selects a signal output to the recording and video recording modes which is independent of the selection of the FUNCTION SELECTOR.
• AUDIO button:
This button selects a signal output to the recording output jacks of DAT/TAPE 1 and 2, as well as VCR-1 and 2.

2 SPECTRAAREA
Use this function when playing back video software other than that recorded in Dolby Surround.
The delay time can be switched in the range of 5 ms to 40 ms.

3 HALL
Use this setting to create the atmosphere of a concert hall.
The delay time may be switched in the range of 5 ms to 40 ms.

4 SIMULATED
Use this setting to play back monaurally recorded sources with surround.
There will be no output from the center speaker position.
The delay time may be switched in the range of 5 ms to 40 ms.

5 STUDIO
Use this setting to create the atmosphere of watching a live program in a studio.
There will be no output from the center speaker position.
The delay time is fixed at 0 ms.

• CENTER button
Press this button when DOLBY PRO-LOGIC has been selected.
When Dolby Pro Logic surround is used during playback, pressing this button will switch the center mode settings in the following order:
1 NORMAL → 2 PHANTOM → 3 WIDE

1 NORMAL: Select this setting for playback with Dolby Pro Logic surround.
This setting is effective when the center channel speakers are smaller than the left and right speakers.
2 PHANTOM: Select this setting for playback with Dolby Pro Logic surround without using the center speakers.
Select this setting when the center channel speakers are of the same grade as the left and right speakers.

3 WIDE:
Select this setting when the center channel speakers are of the same grade as the left and right speakers.

10 REC SELECT

(Independent switching buttons for audio and video recording outputs)
These buttons provide a selection of the audio recording and video recording modes which is independent of the selection of the FUNCTION SELECTOR.
• AUDIO button:
This button selects a signal output to the recording output jacks of DAT/TAPE 1 and 2, as well as VCR-1 and 2.

2 VIDEO button:
This button selects the signal output to the video (and audio) recording output jacks of VCR-1 and 2.
With regard to the video recording (audio recording) output, normally the video signal (audio signal) selected by the VIDEO FUNCTION selector button 2 is output. Use of this button, however, permits selection of an input signal from input jacks other than the VIDEO FUNCTION SELECTOR jacks.

3 VIDEO button:
This button selects the signal output to the video (and audio) recording output jacks of VCR-1 and 2.
With regard to the video recording (audio recording) output, normally the video signal (audio signal) selected by the VIDEO FUNCTION selector button 3 is output. Use of this button, however, permits selection of an input signal from input jacks other than the VIDEO FUNCTION SELECTOR jacks.

4 VIDEO button:
This button selects the signal output to the video (and audio) recording output jacks of VCR-1 and 2.
With regard to the video recording (audio recording) output, normally the video signal (audio signal) selected by the VIDEO FUNCTION selector button 4 is output. Use of this button, however, permits selection of an input signal from input jacks other than the VIDEO FUNCTION SELECTOR jacks.

5 VIDEO button:
This button selects the signal output to the video (and audio) recording output jacks of VCR-1 and 2.
With regard to the video recording (audio recording) output, normally the video signal (audio signal) selected by the VIDEO FUNCTION selector button 5 is output. Use of this button, however, permits selection of an input signal from input jacks other than the VIDEO FUNCTION SELECTOR jacks.

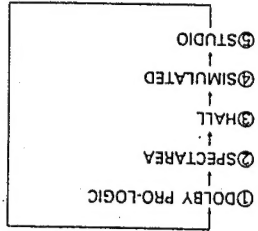
6 VIDEO button:
This button selects the signal output to the video (and audio) recording output jacks of VCR-1 and 2.
With regard to the video recording (audio recording) output, normally the video signal (audio signal) selected by the VIDEO FUNCTION selector button 6 is output. Use of this button, however, permits selection of an input signal from input jacks other than the VIDEO FUNCTION SELECTOR jacks.

7 VIDEO button:
This button selects the signal output to the video (and audio) recording output jacks of VCR-1 and 2.
With regard to the video recording (audio recording) output, normally the video signal (audio signal) selected by the VIDEO FUNCTION selector button 7 is output. Use of this button, however, permits selection of an input signal from input jacks other than the VIDEO FUNCTION SELECTOR jacks.

8 VIDEO button:
This button selects the signal output to the video (and audio) recording output jacks of VCR-1 and 2.
With regard to the video recording (audio recording) output, normally the video signal (audio signal) selected by the VIDEO FUNCTION selector button 8 is output. Use of this button, however, permits selection of an input signal from input jacks other than the VIDEO FUNCTION SELECTOR jacks.

9 VIDEO button:
This button selects the signal output to the video (and audio) recording output jacks of VCR-1 and 2.
With regard to the video recording (audio recording) output, normally the video signal (audio signal) selected by the VIDEO FUNCTION selector button 9 is output. Use of this button, however, permits selection of an input signal from input jacks other than the VIDEO FUNCTION SELECTOR jacks.

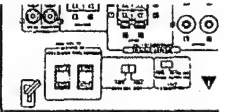
10 VIDEO button:
This button selects the signal output to the video (and audio) recording output jacks of VCR-1 and 2.
With regard to the video recording (audio recording) output, normally the video signal (audio signal) selected by the VIDEO FUNCTION selector button 10 is output. Use of this button, however, permits selection of an input signal from input jacks other than the VIDEO FUNCTION SELECTOR jacks.



1. Setting the frequency step.
Set the FREQUENCY STEP switch as described below.

- In the U.S.A. and Canada – set the switch to 100 kHz/10 kHz side.
- With this setting, the frequency varies in 100 kHz steps in the range of 87.5 to 108.0 MHz(FM) and in 10 kHz steps in 520 to 1710 kHz (AM).
- Elsewhere – set the switch to 50 kHz/ 9kHz side.
- With this setting, the frequency varies in 50 kHz steps in the range of 87.5 to 108.00 MHz (FM) and in 5 kHz steps in 522 to 1611 kHz (AM).

2. Setting the line voltage (Power Supply: AC 110/220 V, 50/60 Hz)



- The customer can set the VOLTAGE SELECTOR KNOB on the back panel for appropriate line voltage by using a screwdriver.
- Do not use excessive force in setting the VOLTAGE SELECTOR KNOB – you may damage it.
- If the VOLTAGE SELECTOR KNOB does not turn smoothly, call qualified service personnel.
- Be sure to set both voltage selectors to same position.

MULTI VOLTAGE MODEL ONLY

Connect the leads to the AM and GND terminals on the back panel.

Attach the supplied AM loop antenna to the antenna holder on the back panel.

• FM ANTENNA
The supplied T-type indoor FM antenna (300 ohms) can be used inside wooden houses for receiving local FM stations and other strong FM signals. Stretch out the ends of the antenna and mount the antenna on the wall or ceiling where optimum reception is achieved. FM T-type antennas may not consistently ensure reliable reception, due to environment changes. In such cases, the FM T-type antenna should only be used temporarily until an outdoor FM antenna has been installed.

When connecting an outdoor FM antenna, the use of 75 ohm coaxial cable (3C-2V, 5C-2V) is strongly recommended. Using a 300-ohm feeder cable will cause noise and you will not be able to achieve the high sound quality the built-in tuner is capable of delivering.

Attach the supplied AM loop antenna to the antenna holder on the back panel.

Connect the leads to the AM and GND terminals on the back panel.

ANTENNA INSTALLATION

Also use the AM terminals for connecting an outdoor AM antenna (when making such a connection do not disconnect the AM loop antenna.)

Adjust the loop antenna to obtain optimum reception. Where broadcast stations are distant and only weak signals are received, or where signals are blocked, it is best to install an outdoor AM antenna.

NOTES

- This receiver has a full back-up system. When the power is turned on, the INPUT SELECTOR buttons are set to the last mode set before the power was turned off.
- When using this receiver in close proximity to video equipment (TV, VCR, VDP, etc.), noise may be generated in loop antenna from the antenna holder and place it where noise is reduced. If the noise is not reduced, turn off the power of the video components when listening to AM broadcasts.

Connect the leads to the AM and GND terminals on the back panel.

Attach the supplied AM loop antenna to the antenna holder on the back panel.

• FM ANTENNA
The supplied T-type indoor FM antenna (300 ohms) can be used inside wooden houses for receiving local FM stations and other strong FM signals. Stretch out the ends of the antenna and mount the antenna on the wall or ceiling where optimum reception is achieved. FM T-type antennas may not consistently ensure reliable reception, due to environment changes. In such cases, the FM T-type antenna should only be used temporarily until an outdoor FM antenna has been installed.

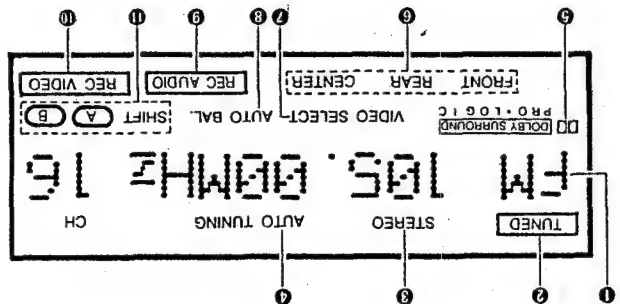
When connecting an outdoor FM antenna, the use of 75 ohm coaxial cable (3C-2V, 5C-2V) is strongly recommended. Using a 300-ohm feeder cable will cause noise and you will not be able to achieve the high sound quality the built-in tuner is capable of delivering.

Attach the supplied AM loop antenna to the antenna holder on the back panel.

Connect the leads to the AM and GND terminals on the back panel.

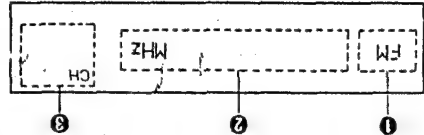
- ① AC OUTLET (AC Power Outlets)
This AC outlet is controlled by the power switch. Maximum capacity is 120 W.
- ② AC CORD (Power Cord)
Connect this cord into the wall outlet.
- ③ AM LOOP ANT (AM Loop Antenna)
Correctly connect the AM loop antenna to the antenna terminal. Broadcasting cannot be received when the connection is incomplete. Adjust the antenna for optimum reception while receiving AM. Do not place a pin cord, SP cord or electric cord near the antenna. This may cause noise generation.
- ④ GND (ground connection terminal)
Connect the turntable's ground wire here.
- ⑤ INPUTS (audio input jacks)
- ⑥ OUTPUTS (audio output jacks)
- ⑦ PRE OUT (FRONT, CENTER, REAR jacks)
- ⑧ MONO OUT (monaural output jacks)
Connect a separately sold subwoofer, etc.
- ⑨ SPEAKERS (speaker terminals)
For connections, see page 5.
- ⑩ FREQUENCY STEP (Frequency Step) Switch
Multi Voltage model only.
- ⑪ LINE VOLTAGE (Line Voltage) Switch
Multi Voltage model only.
- ⑫ INPUTS (audio input jacks)

- ① MULTI FUNCTION DISPLAY
This displays a maximum of 16 characters. Normally the reception frequency is displayed when the function is set to tuner, and the surround mode is displayed when the function is set to other positions. The display also indicates various other information according to the buttons pressed, as shown in the examples on the following pages 12.
- ② TUNED (TUNED Indicator)
This indicator lights when broadcast signals are received.
- ③ STEREO (Stereo Indicator)
The STEREO indicator will automatically light up when a stereo broadcast is received.
- ④ AUTO TUNING (AUTO TUNING Indicator)
This indicator lights when the auto tuning mode is selected by pressing the TUNING MODE button ⑩.
- ⑤ DOLBY SURROUND Indicator
This indicator lights when DOLBY PRO LOGIC is selected by pressing the SURROUND MODE button ⑪.
- ⑥ OUTPUT CHANNEL Indicator
This indicates the currently output speaker channel.
- ⑦ VIDEO SELECT (VIDEO INPUT SELECT Indicator)
This indicator lights when the video monitor output is fixed in the video input select mode.
- ⑧ AUTO BALANCE Indicator
This indicator shows that the auto balance operation is active. It lights up when the surround mode is Dolby Pro-logic or Spectra.
- ⑨ REC AUDIO (REC SELECT AUDIO Indicator)
This indicator lights when the recording audio output is fixed in the REC SELECT AUDIO mode.
- ⑩ REC VIDEO (REC SELECT VIDEO Indicator)
This indicator lights when the recording video output is fixed in the REC SELECT VIDEO mode.
- ⑪ SHIFT (Shift Indicator)
The preset channel which is selected with the Shift Button ⑫ is displayed by the SHIFT ⑬ or Shift Button ⑭.



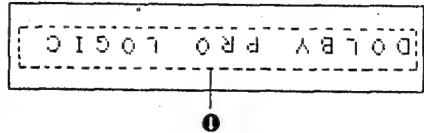
Display

• **MULTI FUNCTION DISPLAY Pattern Examples**
The set modes appear one after another each time the panel button on the AVR-810/810G or the remote control unit is pressed.



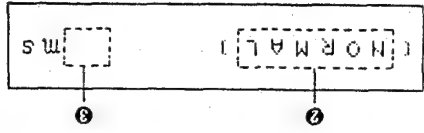
1. TUNER MODE display
- ① FM or AM.
 - ② FREQUENCY
 - ③ CHANNEL

When using the channel preset button ①, the channel and the memorized frequency are displayed.

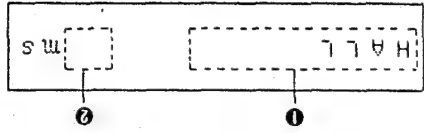


2. SURROUND MODE display
- ① DOLBY PRO LOGIC
 - ② DOLBY PRO LOGIC, DOLBY 3-CH, LOGIC
 - ③ NORMAL, PHANTOM, WIDE
 - ④ DELAY TIME

Dolby Pro Logic settings between 15 ms and 30 ms will be displayed in 5 ms steps. They will not be displayed in Dolby 3-CH Logic mode.

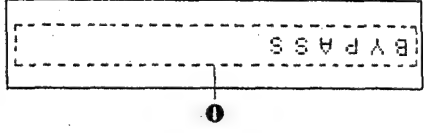


- (3) BYPASS display
- ① This display is shown in the bypass mode.
- ② This display is shown when the CENTER LEVEL button is pressed (Remote Control Unit Only).
- ③ The display is in 2 dB steps from -48 dB (minimum) to 0 dB (maximum).

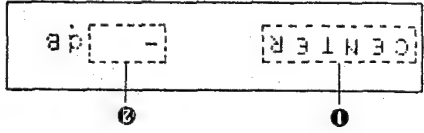


①	SPECTRUM	5 ms to 40 ms settings are displayed in 5 ms steps
②	HALL	5 ms to 40 ms settings are displayed in 5 ms steps
③	SIMULATED	5 ms to 40 ms settings are displayed in 5 ms steps
④	STUDIO	0 ms

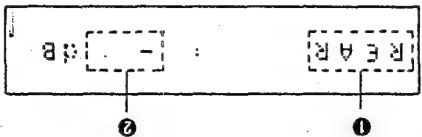
- (2) Other SURROUND MODE displays
- These displays will be shown during surround modes such as those listed below.



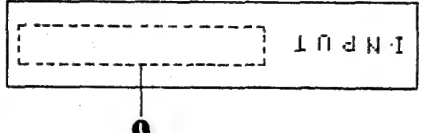
NOTE:
This is not displayed in modes not using the center speakers.



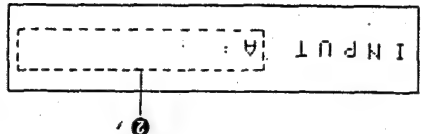
7. TEST TONE display
- ① This appears when the TEST TONE button on the remote control unit is pressed. The arrow moves according to the output.
- ② The display remains on until the test tone is turned off.
- ③ This appears when the MUTING button on the included remote control unit is switched on. The display remains on until muting is canceled.
- ④ This appears when the protection circuit is activated.
- ⑤ If this display should appear, set the power switch to standby and check the speaker connections, then switch the power back on.



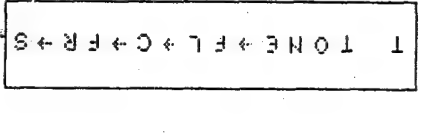
4. REAR LEVEL display
- ① The display will be shown when the REAR LEVEL button is pressed (Remote Control Unit Only).
- ② The display is in 2 dB steps from -48 dB (minimum) to 0 dB (maximum).



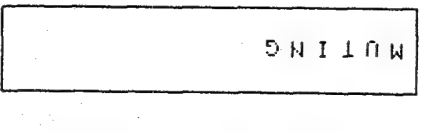
5. INPUT display
- ① The display will be shown when one of the input selectors is pressed, after which the function name will appear.
- ② If a video signal has already been selected using the video select buttons, the audio and video inputs will be displayed for 3 seconds after the button is pressed.



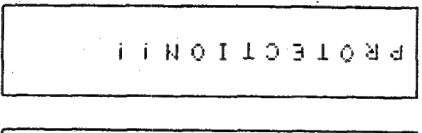
6. REC OUT display
- ① REC SELECT
- ② The display will be shown when AUDIO or VIDEO is pressed.
- ③ Audio outputs
- ④ The display shows which audio component was selected, PHONO, CD, TUNER, DAT/TAPE-1, DAT/TAPE-2, DBS/BS, VDP, VCR-1, VCR-2, or V-AUX.
- ⑤ Normally the source is displayed.
- ⑥ Video outputs
- ⑦ The display shows which video component was selected, DBS/BS, VDP, VCR-1, VCR-2, or V-AUX.
- ⑧ Normally the source is displayed.



7. TEST TONE display
- ① This appears when the TEST TONE button on the remote control unit is pressed. The arrow moves according to the output.
- ② The display remains on until the test tone is turned off.
- ③ This appears when the MUTING button on the included remote control unit is switched on. The display remains on until muting is canceled.
- ④ This appears when the protection circuit is activated.
- ⑤ If this display should appear, set the power switch to standby and check the speaker connections, then switch the power back on.



8. MUTING display
- ① This appears when the MUTING button on the included remote control unit is switched on. The display remains on until muting is canceled.
- ② This appears when the protection circuit is activated.
- ③ If this display should appear, set the power switch to standby and check the speaker connections, then switch the power back on.



7 OPERATION

PREPARATIONS FOR PLAYBACK

1. Checking connections
 - Referring to the connection diagrams (Page 5 to 7) check to make sure that the connections are made properly.
 - Check that the left and right speakers are connected properly and also that the polarities (+, -) are correct.
 - Check that the left and right sides of the pin-plug cords are connected properly.
 - Check that each cord is securely connected.
 - Check that each cord is of the proper type.
2. Checking the positions of the controls
 - (See Pages 9 to 11 for a reference to the circled numbers.)
 - Turn the MASTER VOLUME control ⑦ fully counterclockwise to the "0" position.
 - Set the BALANCE ⑤, BASS ⑥, and TREBLE ⑧ controls to their center positions.

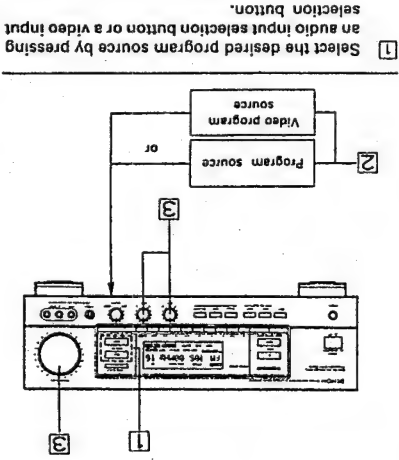
After making the above checks, press the POWER switch ① to switch on the power.
The receiver will be operable when the LED of the MASTER VOLUME control ② stops flashing after several seconds of muting.

Note on Playback
The sound will be interrupted if one of the input selector buttons (④ and ⑤) is pressed during playback. This is due to the operation of the muting circuit which prevents noise from being amplified at the time of switching, and is not a malfunction.
Note that the activation of the muting circuit mentioned above will not have an effect on the sound being recorded.

- When using the accompanying remote control unit, press the corresponding button. [REMOTE CONTROL UNIT], on page 15.

Protection Circuit
This receiver is provided with a high-speed protection circuit. This circuit protects the internal circuitry from large currents which may be created by the output signals when the speaker terminals are not completely connected or are short-circuited.
The operation of this protection circuit automatically cuts off the output to the speakers and displays "PROTECTION" on the multi function display.
If this should happen be sure to set the POWER switch on the receiver to the OFF mode, check the speaker connections, then switch the power back on. After several seconds of muting, the set will operate normally.

Playback of program sources - 1

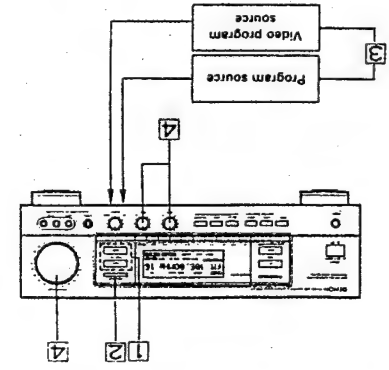


1 Select the desired program source by pressing an audio input selection button or a video input selection button.

VIDEO INPUT SELECTOR	Program source
PHONO	To listen to a record
CD	To listen to a CD
TUNER	To listen to FM or AM broadcasts
DATE/TAPE-1	To listen to the DAT or tape deck connected to the DAT/TAPE-1 jacks
DATE/TAPE-2	To listen to the DAT or tape deck connected to the DAT/TAPE-2 jacks
VIDEO INPUT SELECTOR	Video program source
DBS/BS	To watch a satellite broadcast
VDP	To watch the video disc player connected to the VDP jacks
VCR-1	To watch the video deck connected to the VCR-1 jacks
VCR-2	To watch the video deck connected to the VCR-2 jacks
V-AUX	To watch the video camcorder or another component connected to the VIDEO-AUX jacks (front panel) equipped with playback function or the video camcorder

- 2 Begin playback of the program source.
For operating details, see the manual of the respective component.
- 3 Adjust the volume and tone.
For the tuner, use the TUNING buttons ⑨ and PRESET CHANNEL buttons ⑩ to set the desired frequency.

Playback of program sources - 2

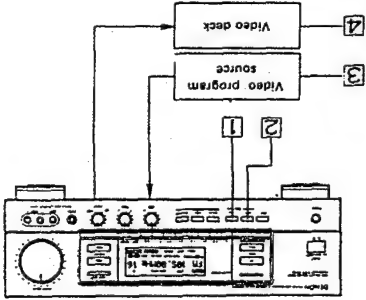


1 Select the program source you wish to listen to with the AUDIO FUNCTION selector or the VIDEO FUNCTION selector.

- 2 Press VIDEO SELECT to select the video program source you wish to watch.
- 3 Begin playback of the program sources.
For operating details, see the manual of the respective component.
For the tuner, use the TUNING buttons ⑨ and PRESET CHANNEL buttons ⑩ to set the desired frequency.
- 4 Adjust the volume and tone.

- When the video program source is again selected with the VIDEO FUNCTION button, even during Simulcast playback, the Simulcast playback will be cancelled automatically.

- Independent recording of video program sources and independent video tape copying — 1 (Recording the picture of a source other than the one currently being monitored)

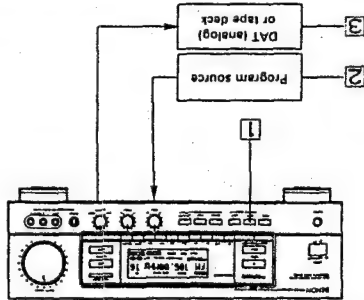


- 1 Hold down the REC SELECT VIDEO button (an independent video recording output selection button) and when the program source you wish to independently video record is displayed, release your finger from the button. The display will be switched in the following sequence:
DS/BS — VDP — VCR-1 — VCR-2 — V-AUX
- 2 Start playing the video program source you wish to video record.
- 3 Start the recording with the video deck.
- 4 Refer to the instruction manuals accompanying your equipment for details on their operation.
- 5 Pressing the REC SELECT VIDEO button again will cancel this mode.
- 6 Independent recording of video program sources and independent video tape copying — 2 (Simulcast recording)

- Independent recording of video program sources and independent video tape copying — 2 (Simulcast recording)

- 1 Hold down the REC SELECT VIDEO button and release your finger when the video program source you wish to record is displayed.
- 2 Hold down the REC SELECT AUDIO button and release your finger when the program source you wish to record is displayed.
- 3 Begin playback of the program sources.
- 4 Begin recording on the video deck.
- 5 Pressing the REC SELECT VIDEO button again will cancel this mode.

- Independent recording of program sources and independent tape copying (Recording the sound of a source other than the one currently being monitored)

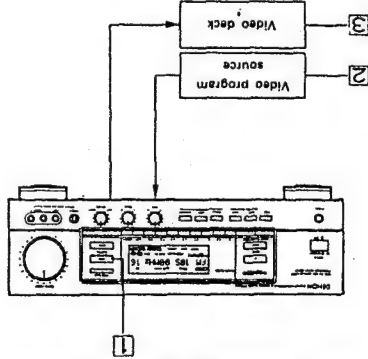


- 1 Hold down the REC SELECT AUDIO button (an independent audio recording output selection button) and when the program source you wish to independently record is displayed, release your finger from the button. The display will be switched in the following sequence:
PHONO — CD — TUNER — DAT/TAPE-1 — DAT/TAPE-2 — VCR-1 — VCR-2 — V-AUX
- 2 Start playing the program source you wish to record.
- 3 Start the recording with the tape deck or DAT (analog).
- 4 Refer to the instruction manuals accompanying your equipment for details on their operation.
- 5 Pressing the REC SELECT AUDIO button again will cancel this mode.
- 6 Monitoring the recording

- Monitoring the recording

- 1 When making a recording using a 3-head tape deck, the sound that has actually been recorded on the tape can be checked. To monitor the tape recording, after completing the aforementioned settings, use the AUDIO FUNCTION selector to select the position which connects the 3-head tape deck, either DAT/TAPE-1 or 2.
- 2 Begin playback of the video program source you wish to record.
- 3 Begin recording on the video deck.
- 4 For operating details, see the manual of the respective component.

- Recording video program sources and copying videos (Recording the sound and picture of the video source currently being monitored)

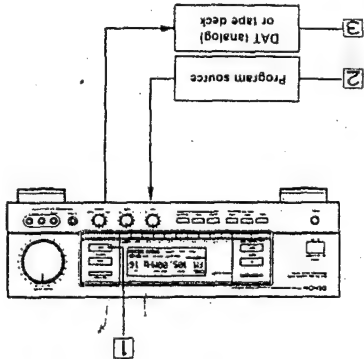


- 1 Press one of the video input selection buttons to select the program source you wish to record.
- 2 To record from the video disc player connected to the VDP jacks
- 3 To record from the VCR-1 jacks
- 4 To record from the video tape deck connected to the VCR-2 jacks
- 5 To record from the video camcorder equipped with playback function or another component connected to the VIDEO-AUX jacks (front panel)

VIDEO INPUT SELECTOR	VIDEO program source
DS/BS	To record from the DS/BS tuner connected to the DS/BS jacks
VDP	To record from the video disc player connected to the VDP jacks
VCR-1	To record from the VCR-1 jacks connected to the VCR-1 jacks
VCR-2	To record from the video tape deck connected to the VCR-2 jacks
V-AUX	To record from the video camcorder equipped with playback function or another component connected to the VIDEO-AUX jacks (front panel)

- 2 Begin playback of the video program source you wish to record.
- 3 Begin recording on the video deck.
- 4 For operating details, see the manual of the respective component.

- Recording the audio sources and copying tapes (Recording the audio source currently being monitored)



- 1 Press one of the audio input selection buttons to select the program source you wish to record.
- 2 To record from a CD
- 3 To record from FM or AM broadcasts
- 4 To record from the DAT or tape deck connected to the DAT/TAPE-1 jacks
- 5 To record from the DAT or tape deck connected to the DAT/TAPE-2 jacks

AUDIO INPUT SELECTOR	Program source
PHONO	To record from a record
CD	To record from a CD
TUNER	To record from FM or AM broadcasts
DAT/TAPE-1	To record from the DAT or tape deck connected to the DAT/TAPE-1 jacks
DAT/TAPE-2	To record from the DAT or tape deck connected to the DAT/TAPE-2 jacks

- 2 Begin playback of the program source you wish to record.
- 3 Begin recording on the tape deck or DAT (analog).
- 4 For operating details, see the manual of the respective component.

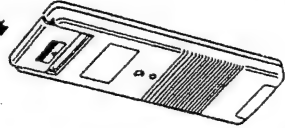
- Simultaneous recording

- 1 The signals from the sources selected by the input selection buttons are output simultaneously from the OUTPUT jacks of the audio and video systems. If two tape decks and two Hi-Fi video decks are connected and all four components are set to the recording mode, the four components will record the same source simultaneously.
- 2 Begin playback of the video program source you wish to record.
- 3 Begin recording on the tape deck or DAT (analog).
- 4 For operating details, see the manual of the respective component.

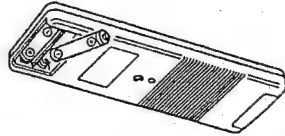
8 REMOTE CONTROL UNIT

Following the procedure outlined below, insert the batteries before using the remote control unit.

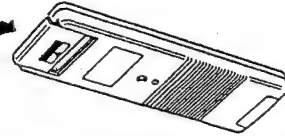
1. Open the bottom cover of the remote control unit and remove the battery cover.



2. Insert the two R6P (AA) batteries, matching the ⊕ and ⊖ marks on the batteries, with those in the case.

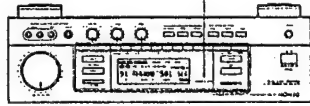


3. Close the bottom cover until it clicks shut.



Range of operation of the remote control unit

Range of remote control: Approximately 7 m
If the range of the remote control seems short or the sensitivity poor, the batteries may be weak. Replace the batteries with new ones promptly.



Using the remote control unit

The remote control unit uses highly linear infrared rays. Point it at the receiver's remote sensor when operating it. The receiver will not operate if the remote sensor is covered or if there is an obstacle between the remote control unit and the sensor. Also note that strong light shining on the remote sensor may result in mistaken operations. In addition, using the receiver near neon signs which generate pulse type noise may result in mistaken operations, so keep the receiver as far as possible from such neon signs.

Cautions for batteries

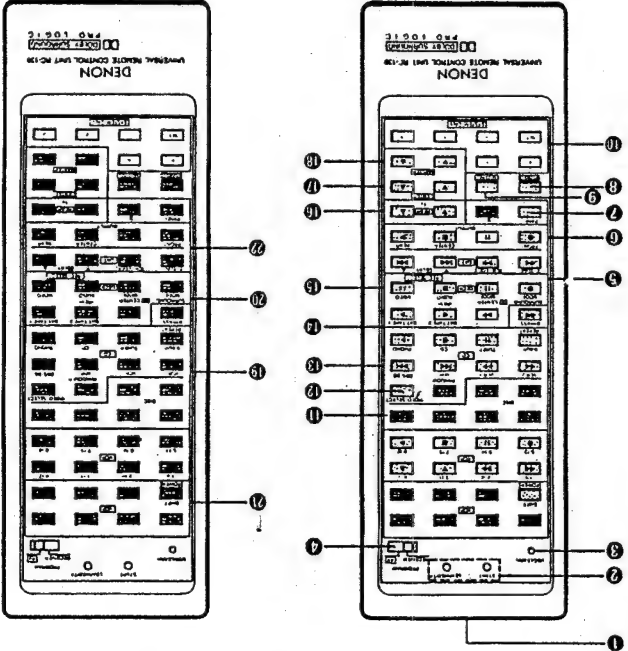
- Be sure that the ⊕ and ⊖ ends of the batteries match the marks on the battery case of the remote control unit.
- Replace weak batteries as soon as possible.
- Do not mix new batteries with used ones.
- Do not use batteries of different types together.
- Note that some batteries of the same shape and size may provide different performance.
- Some batteries are rechargeable, others are not. Read the battery instructions carefully.
- Do not connect the ⊕ and ⊖ ends of the batteries directly with metal objects. (Do not short-circuit the batteries.)
- Do not disassemble, heat, or dispose of batteries in a fire. If the batteries should leak, carefully wipe off any fluid from the battery case, then insert new batteries.

A note on battery replacement

Have replacement batteries on hand so that they can be inserted as quickly as possible after the old batteries are taken out. The codes that have been learned may be lost if new batteries are not inserted within about 5 minutes.

Part Names and Functions of the Remote Control Unit

Learning Function Button



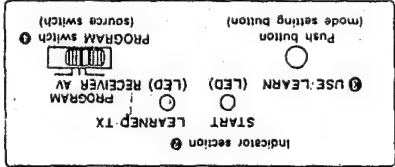
[PROGRAM AV]
58 Buttons

[PROGRAM RECEIVER]
15 Buttons

1 Transmitting window The remote control signals (infrared rays) are sent from this window.

□ buttons contain a special receiver code and cannot learn.
■ buttons can learn, in the initial condition they contain the codes of DENON CD, VDP, cassette deck, and DAT products.
Note that there are a maximum of 37 programs when DENON codes have been used.

Follow the procedure described below to use the learning function of the remote control unit.



- Operation**
1. USE/LEARN select button (1) Press this button with the tip of a pen, etc., to set the learn mode. The START and LEARNED/TX LEDs in the indicator section (2) will start flashing to indicate that learning is possible.
 2. Set the PROGRAM switch (3) to the desired side.

3. Hold the transmitting windows of both your remote control unit and the RC-139 facing each other about 5 cm apart.

4. Press the button of the RC-139 to which you wish to store the code for 1 to 2 seconds, then release it. The LEDs will stop flashing and the START LED will remain lit.

5. Check that the START LED (2) is lit, then hold down the corresponding button on the other remote control unit.

6. Release the button when the START LED (2) goes off and the LEARNED LED lights up. The code has now been stored. The two LEDs will once again start flashing. Use this procedure to store other codes at other buttons.

7. Repeat steps 4 through 6 above to store codes at other buttons.

NOTE:

- If the code cannot be stored, the LEARNED LED will not light after the START LED has gone off. This may occur for a very limited number of models.
- If the memory is overloaded, both LEDs will start flashing rapidly after the START LED lights up. If this happens, use the reset operation to re-learn no more codes can be stored.

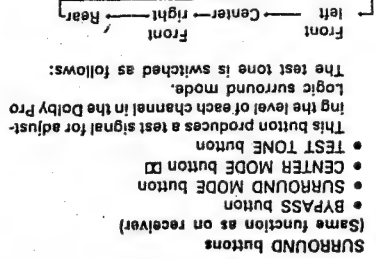
8. After the learning operations are completed, press the USE/LEARN switch again. The two LEDs will stop flashing and the unit will be in the transmit mode. Check that the stored codes function properly.
- The buttons for which learning is possible are: Up to a maximum of 37 buttons, among the 15 buttons with the PROGRAM switch (4) set to RECEIVER, and the 58 buttons with the PROGRAM switch set to AV.

NOTE:

Depending on the type and length of the codes to be learned, it may not be possible to use all 37 buttons for learning.

- Clearing operation**
1. Press the USE/LEARN switch (1) with the tip of a pen, etc., to set the learn mode.
 2. Set PROGRAM switch (4) to the side of the source you wish to clear (either RECEIVER or AV).
 3. Hold down the VCR-2 and (DSS/BS) buttons at the same time for at least 4 seconds.
 4. The START and LEARNED LEDs will light for 2 seconds, then go off when all learned codes for that source are cleared.
- If the source is PROGRAM RECEIVER or AV, the remote control unit will be set to the initial codes (DENON system codes).
1. Press the USE/LEARN switch (1) with the tip of a pen, etc., to set the learn mode.
 2. The PROGRAM switch (4) may be set to either RECEIVER or AV.
 3. Press the TONE and the DELAY button (3) at the same time for at least 4 seconds.
 4. When the START and LEARNED LEDs alternately light up 6 times, all learning codes will have been cleared.
- Note that the initial codes (DENON system codes) will be set.

1. Check that both LEDs are off.
 2. When a remote control operation button is pressed, the USE/LEARN button to switch them off. If both LEDs are flashing or if the START LED is lit, press the USE/LEARN button to switch them off.
- Remote control code will be transmitted.



This signal is used for adjusting the volume balance.

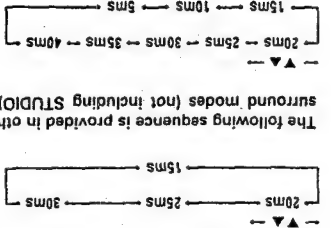
1. For details, see Page 12.

- 3-CH LOGIC button
- This button is used for playing back a video source recorded using Dolby Surround with-out using the rear speakers.

- Switching this button on combines the rear speaker audio with that of the front speakers. Pressing the button once more switches this function off and returns the set to normal operation.

- DELAY TIME button
- This button sets the delay time. This button is only effective when the surround mode is on.

- Pressing the ▲ side increases the delay time. Pressing the ▼ side decreases the delay time.
- The following sequence is provided in the Dolby Pro Logic mode:



11. The following sequence is provided in other surround modes (not including STUDIO):

10. SYSTEM CALL buttons
- See Page 31.
11. TUNER PRESET CALL buttons
- (Same function as on receiver)
- PRESET CHANNEL 1~16
 - SHIFT Button
12. VIDEO SELECT buttons
- (Same function as on receiver.)
13. Video input selection buttons
- (Same function as on receiver.)

CAUTION:

- If the power is turned off with the remote control unit, the receiver is switched to the power stand-by state. If you are to be absent for a long period of time, be sure to turn the power off using the POWER switch on the receiver.
- The LED indicator in the VOLUME control knob lights while the receiver is in the power stand-by state.

8. POWER button
- (Same function as on receiver)
7. PANEL button
- (Same function as on receiver)
- FRONT Operates the speaker systems connected to the front speaker output terminals.
 - CENTER Operates the speaker systems connected to the center speaker output terminals.
 - REAR Operates the speaker systems connected to the rear speaker output terminals.
6. OUTPUT buttons
- These buttons switch the speaker outputs on and off.

- For buttons also on the AVR-810/810G, refer to pages 14 to 18.

Description of AVR-810/810G code buttons

9 TROUBLESHOOTING

If a problem should arise, first check the following:


1. Are the connections correct?
2. Have you operated the receiver according to the Operating Instructions?
3. Are the speakers, turntable, and other components operating properly?

If the receiver is not operating properly, check the items listed in the table below. Should the problem persist, there may be a malfunction. Disconnect the power immediately and contact your store of purchase.

Symptom	Cause	Measures	Page
LED lit but sound not produced.	<ul style="list-style-type: none"> Speaker cords not securely connected. Speaker output switch is off. Improper position of the audio input selection button. Improper position of the video input selection button. Volume control set to minimum. MUTING is on. 	<ul style="list-style-type: none"> Connect securely. Turn the speaker output switch on. Set to a suitable position. Set to a suitable position. Turn volume up to suitable level. Switch off MUTING. 	5
LED continues flashing.	<ul style="list-style-type: none"> Speaker terminals are short-circuited. 	<ul style="list-style-type: none"> Switch power off, connect speakers properly, then switch power back on. 	5
Sound produced only from one channel.	<ul style="list-style-type: none"> Improper connection of speaker cords. 	<ul style="list-style-type: none"> Connect securely. 	5
Positions of instruments reversed during stereo playback.	<ul style="list-style-type: none"> Left/right balance is off. 	<ul style="list-style-type: none"> Adjust balance knob properly. 	5-7
Humming noise produced when record is playing.	<ul style="list-style-type: none"> Ground wire of turntable not connected properly. Incomplete PHONO jack connection. TV or radio transmission antenna nearby. 	<ul style="list-style-type: none"> Connect securely. Connect securely. Contact your store of purchase. 	5-7
Howling noise produced when volume is high.	<ul style="list-style-type: none"> Turntable and speaker systems too close together. Floor is unstable and vibrates easily. 	<ul style="list-style-type: none"> Separate as much as possible. Use cushions to absorb speaker vibrations transmitted by floor. If turntable is not equipped with insulators, use audio insulators (commonly available). 	-
Sound is distorted.	<ul style="list-style-type: none"> Stylus force too weak. Dust or dirt on stylus. Cartridge defective. 	<ul style="list-style-type: none"> Apply proper stylus force. Check stylus. Replace cartridge. 	-
Volume is weak.	<ul style="list-style-type: none"> MC cartridge being used. 	<ul style="list-style-type: none"> Replace with MM cartridge or use a head amplifier or step-up transformer. 	5

10 LAST FUNCTION MEMORY

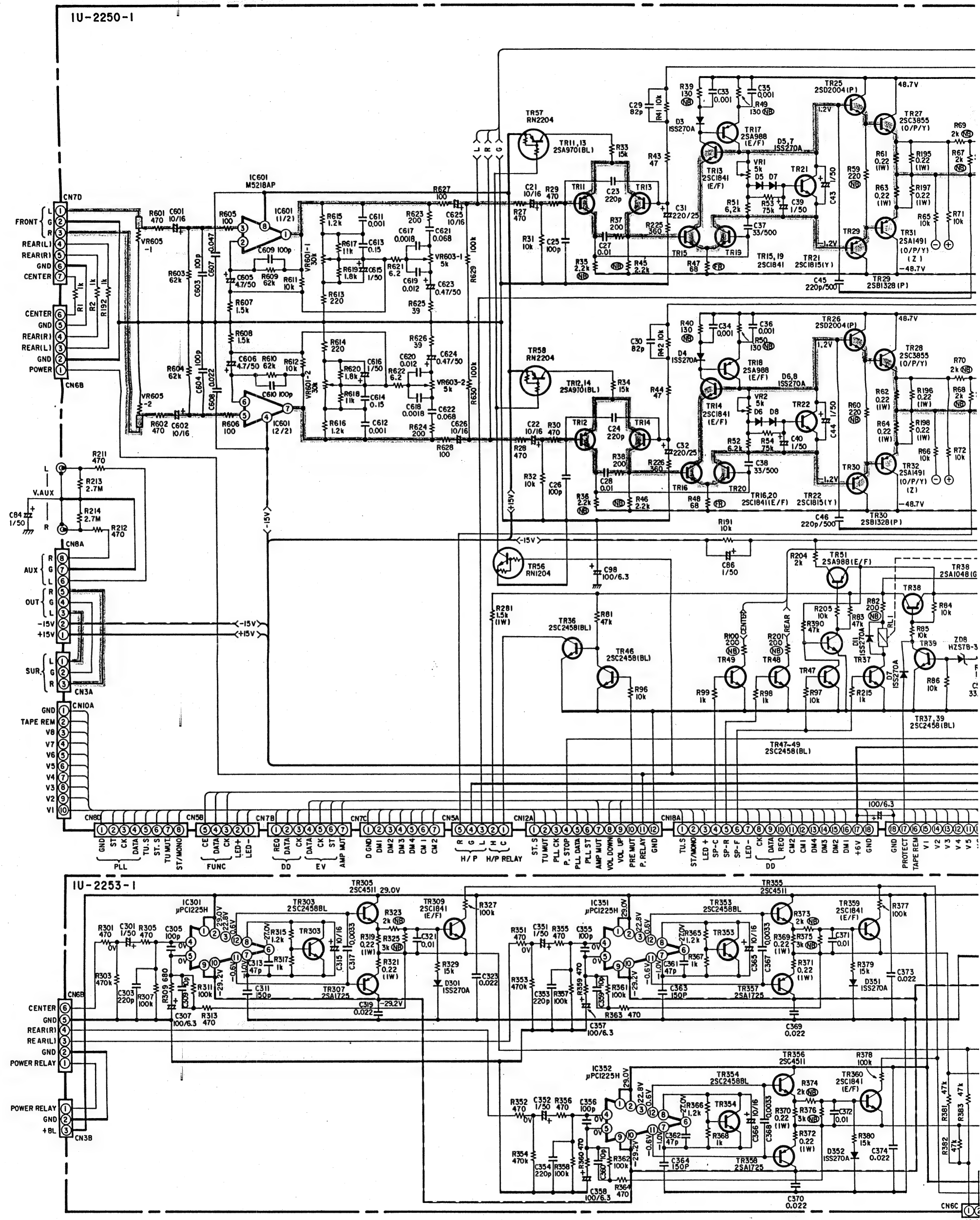
- This receiver is equipped with a last function memory which stores the input and output setting conditions as they were immediately before the power is switched off.
- This function eliminates the need to perform complicated resettings when the power is switched on. memory storage with the power switch "OFF".
- This receiver is also equipped with a back-up memory. This function provides approximately one month of

Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under one or more of the following patents: U.S. numbers 3,632,886, 3,746,792 and 3,959,590; Canadian numbers 1,004,603 and 1,037,877. "Dolby" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

Symptom	Cause	Measures	Page
Radio program can not be received.	<ul style="list-style-type: none"> Antenna connection is wrong. 	<ul style="list-style-type: none"> Check the connection. 	6
Noise is reproduced.	<ul style="list-style-type: none"> A signal strength is weak. A signal strength is weak with reception. Other electrical equipment interferes with reception. Automobile ignition noise interferes with reception. 	<ul style="list-style-type: none"> Check the antenna installation. Install an outdoor antenna. Keep the antenna away from the street. Keep the equipment away from this set, or turn off the power of the other equipment. 	10,11
In automatic tuning, the frequency doesn't stop at the radio station.	<ul style="list-style-type: none"> A signal strength is weak. 	<ul style="list-style-type: none"> Use manual tuning 	10,11
In automatic tuning, it stops at frequency lower or higher than the radio station.	<ul style="list-style-type: none"> Noise or strong signal strength is received. 	<ul style="list-style-type: none"> Use manual tuning for optimum reception. 	10,11
Receiver does not operate properly when remote control unit is used. (When LEARNED' TX LED is lit)	<ul style="list-style-type: none"> Batteries dead. Obstacle between receiver and remote control unit. Learning process to the button im- 	<ul style="list-style-type: none"> Replace with new batteries. Remove obstacle. Move closer. Set learning again. 	15
Receiver does not operate properly when remote control unit is used. (When LEARNED' TX LED is not lit)	<ul style="list-style-type: none"> Learning process has not been applied to the button. Batteries dead. Insert batteries properly. Set to desired position (RECEIVER, AV). 	<ul style="list-style-type: none"> Apply learning process. Insert batteries properly. Set to desired position (RECEIVER, AV). 	15
"PROTECTION" display appears on the multi function display.	<ul style="list-style-type: none"> Improper speaker cord connection. 	<ul style="list-style-type: none"> Connect speaker cord properly. then turn the POWER switch back on. 	5,6

SCHEMATIC DIAGRAM (3/3) Audio Section

1 2 3 4 5 6



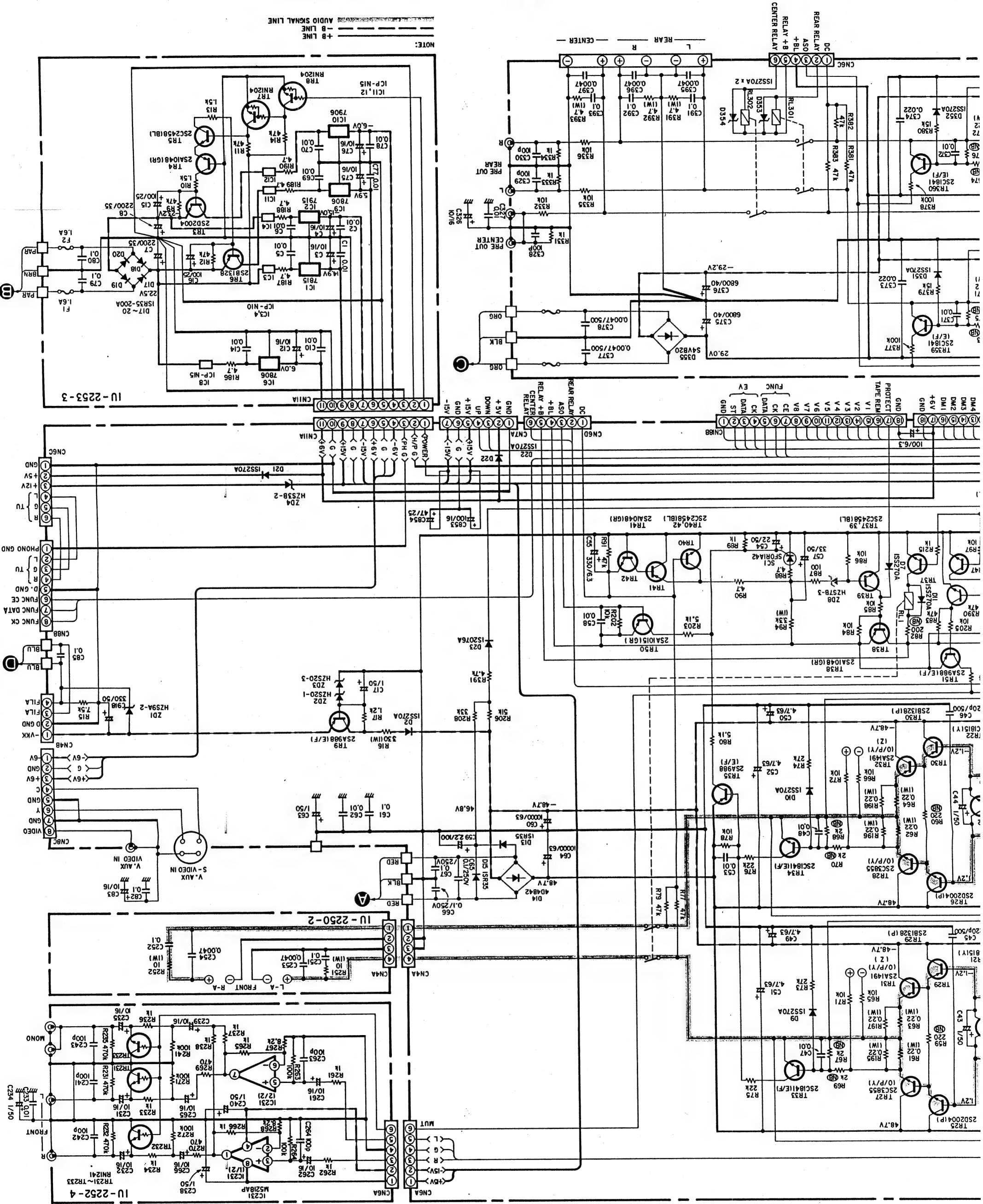
NOTES
 ALL RESISTANCE VALUES IN OHM. K=1,000 Ω
 ALL CAPACITANCE VALUES IN MICRO FARAD
 EACH VOLTAGE AND CURRENT ARE MEASUR
 CIRCUIT AND PARTS ARE SUBJECT TO CHAN

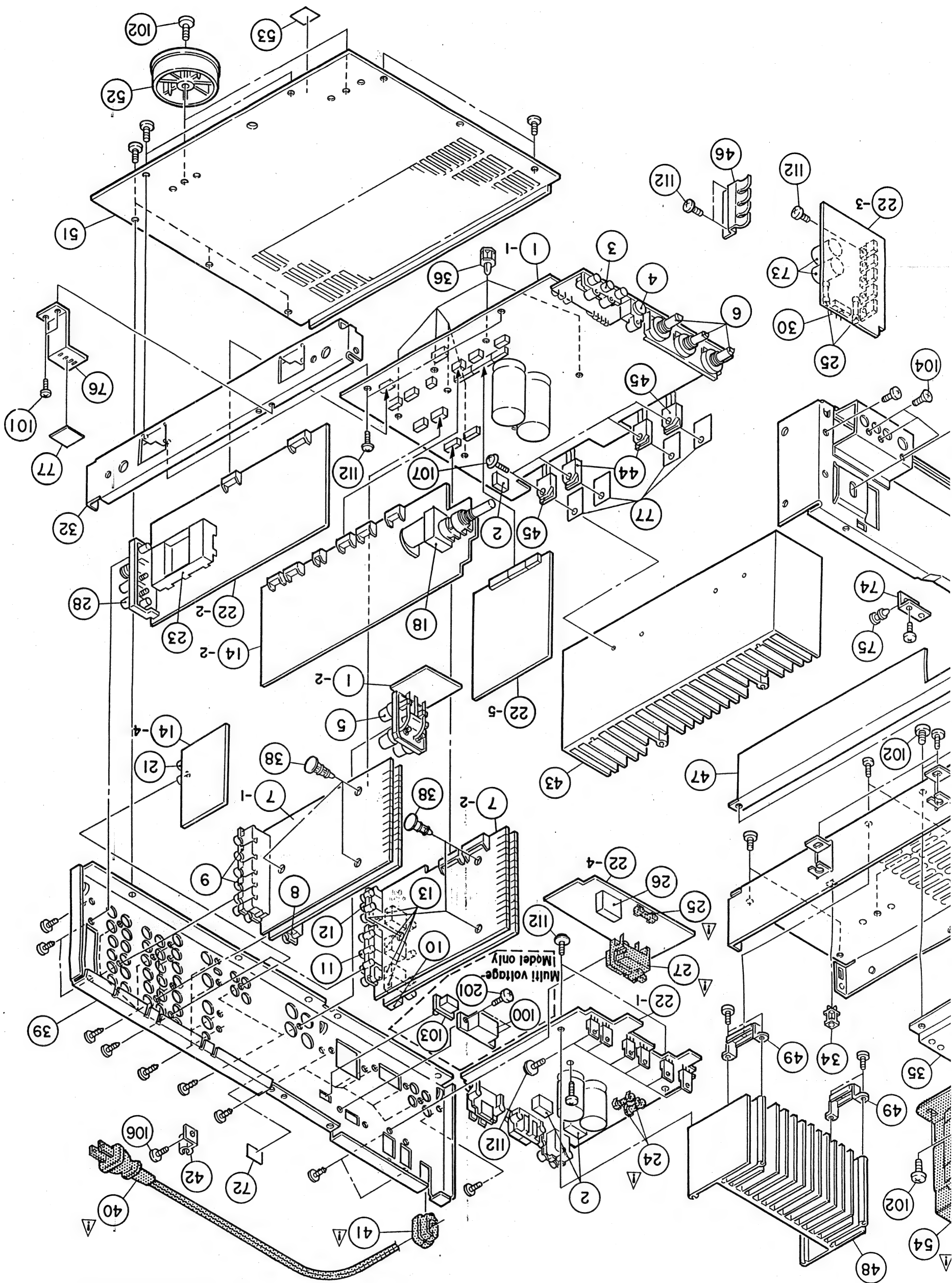
RESISTANCE VALUES IN OHM, K=1,000 OHM, M=1,000,000 OHM
CAPACITANCE VALUES IN MICROFARAD, P=MICRO-MICRO FARAD
T AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamperes, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

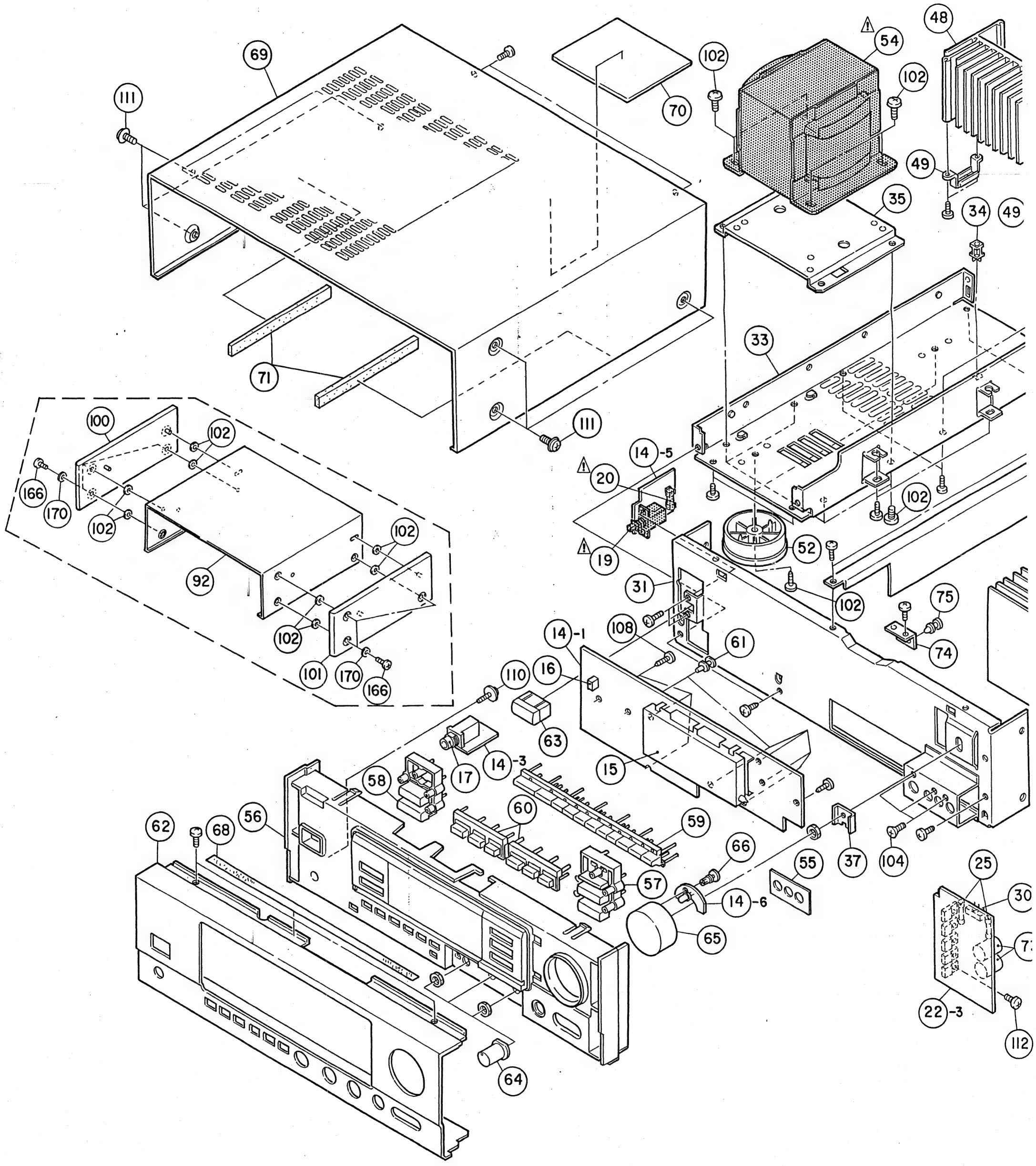
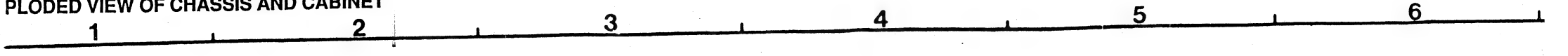
WARNING:
Parts marked with this symbol Δ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.





WARNING: Parts marked with this symbol Δ have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

EXPLODED VIEW OF CHASSIS AND CABINET

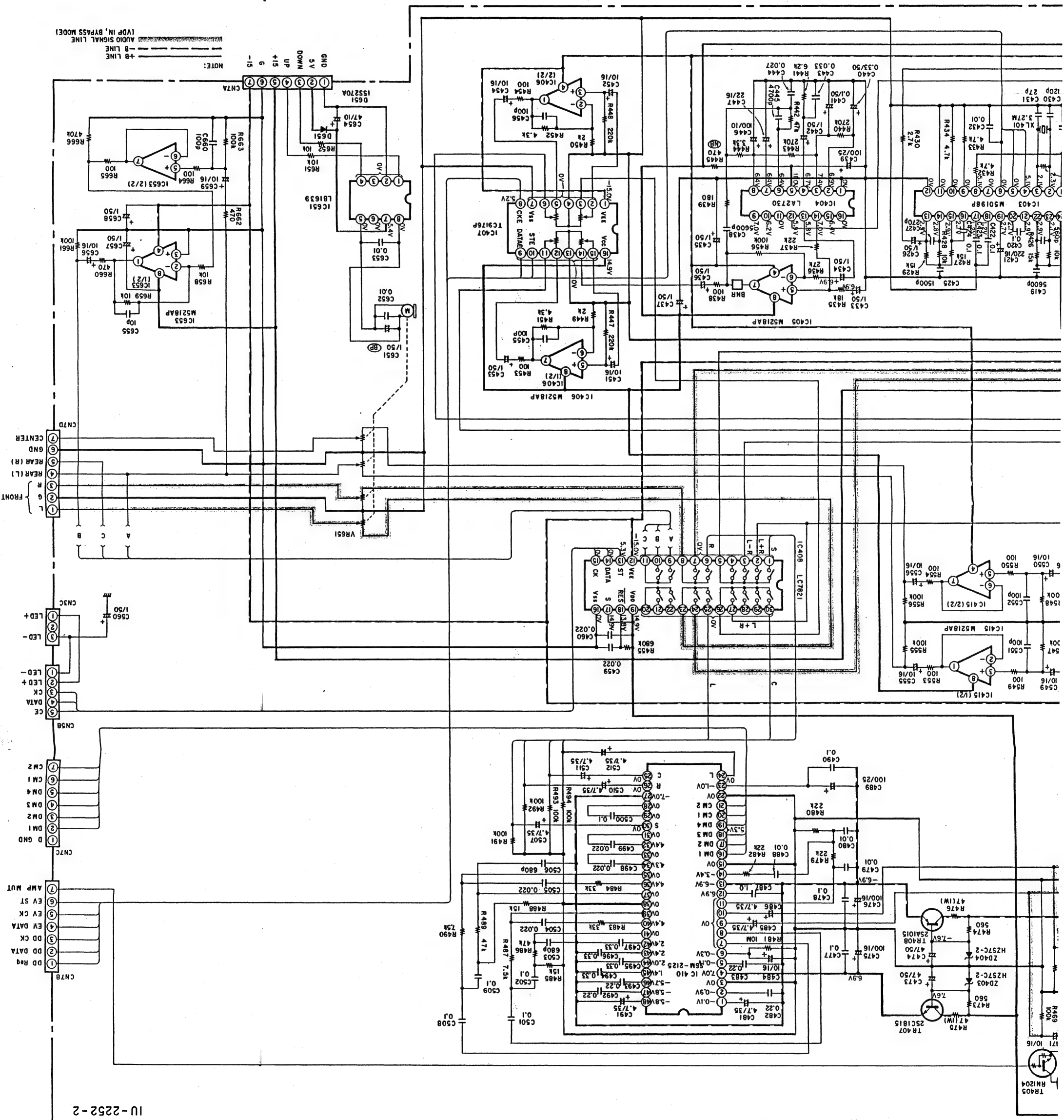


VALUES IN OHM, K=1,000 OHM, M=1,000,000 OHM
 ALUES IN MICRO FARAD, P=MICRO-MICRO FARAD
 CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
 ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

WARNING:
 Parts marked with this symbol Δ have critical characteristics.
 Use ONLY replacement parts recommended by the manufacturer.

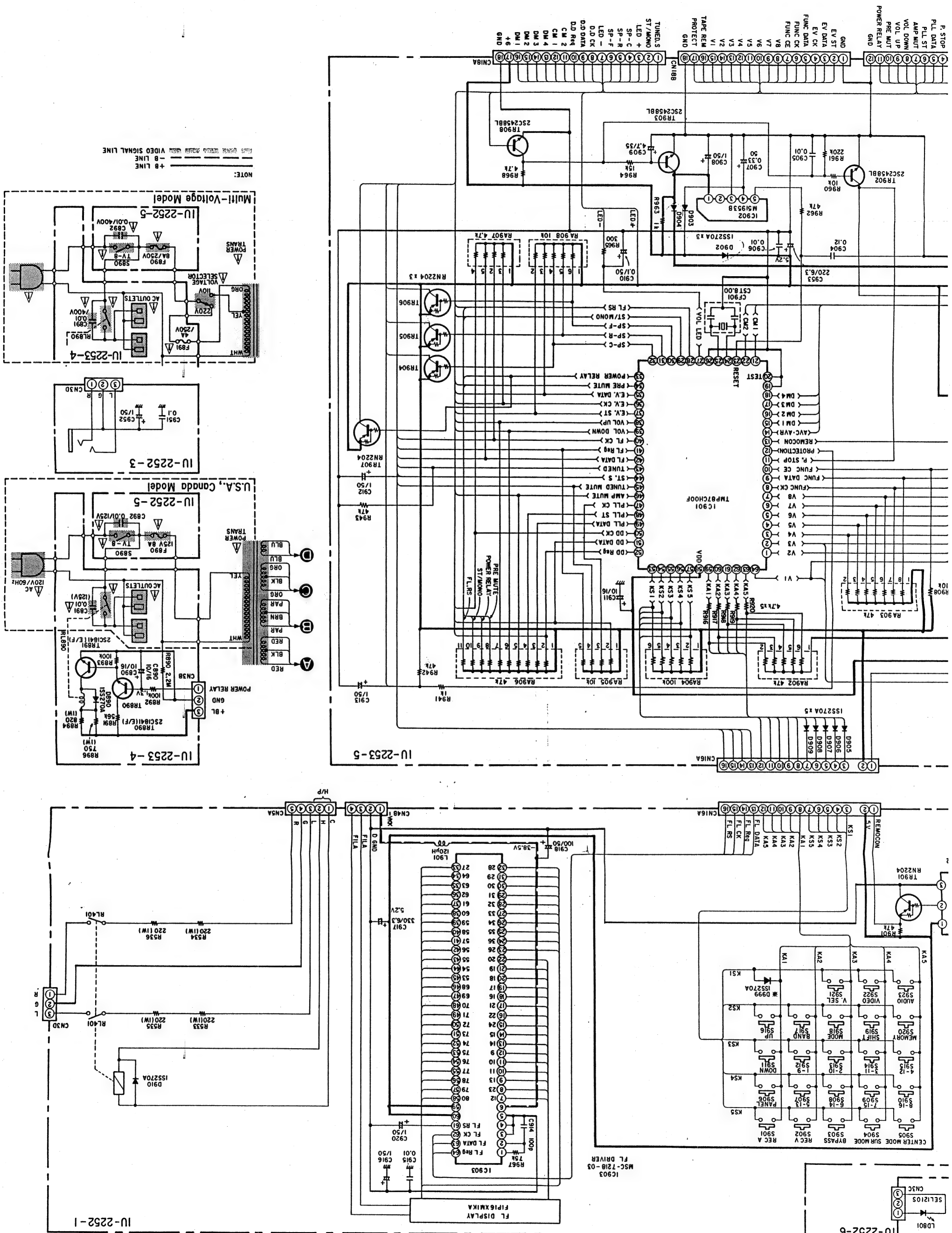
CAUTION:
 Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamperes, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
 DO NOT return the unit to the customer until the problem is located and corrected.

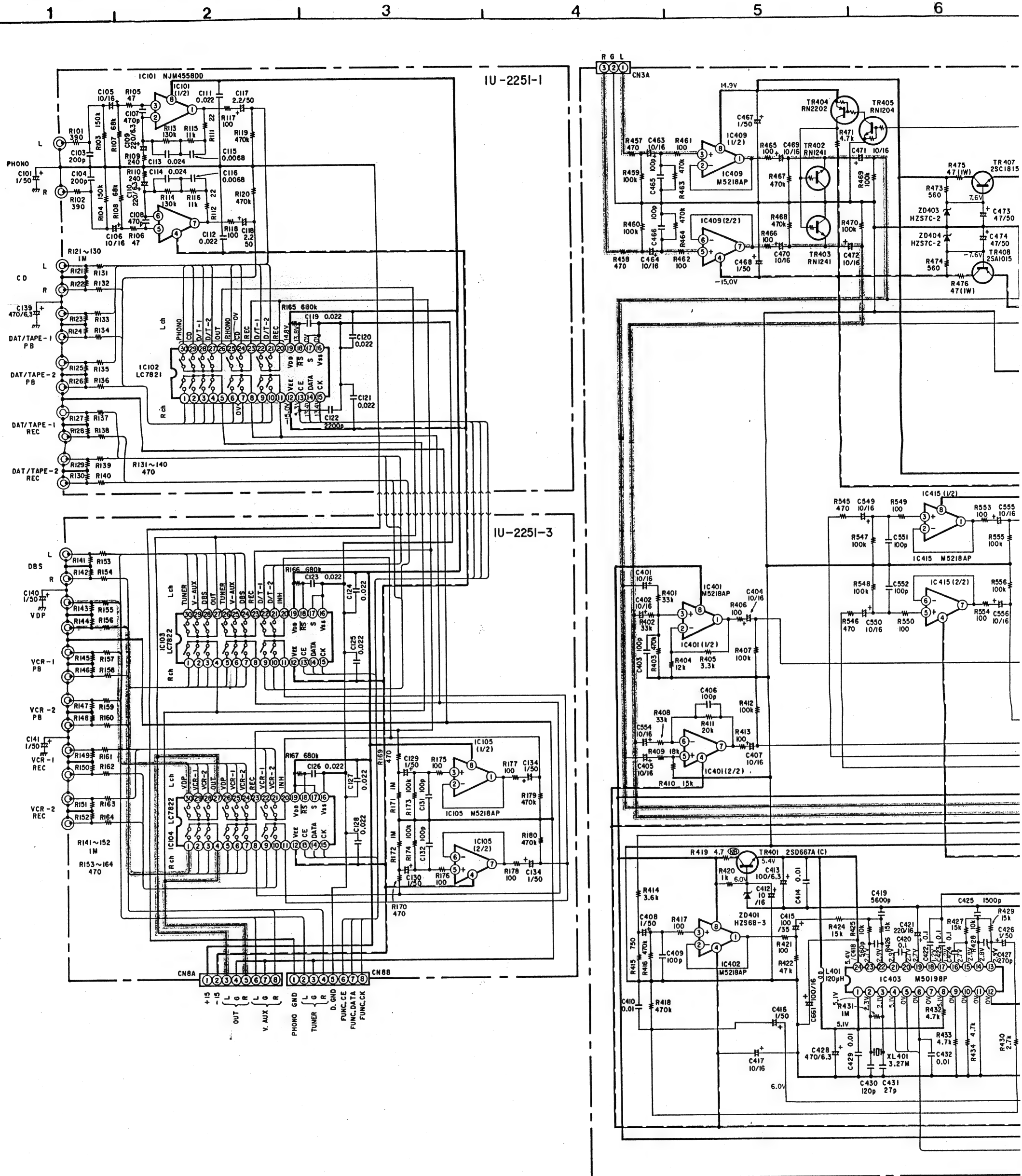


M, M=1,000,000 OHM
P=MICRO-MICRO FARAD
ED AT NO SIGNAL INPUT CONDITION.
RE WITHOUT PRIOR NOTICE.

	Front Amp		Input Unit	Surround Amp	Rear Center Amp	R824	C837,C838	D999
	U.S.A. model	1U-2250	1U-2251	1U-2252	1U-2253	18K	750P	—
	Canada model	1U-2250	1U-2251	1U-2252	1U-2253	18K	750P	—
	Multivoltage model	1U-2250C	1U-2251	1U-2252C	1U-2253C	33K	510P	1SS270A
Unit No.								
Ref. No.								



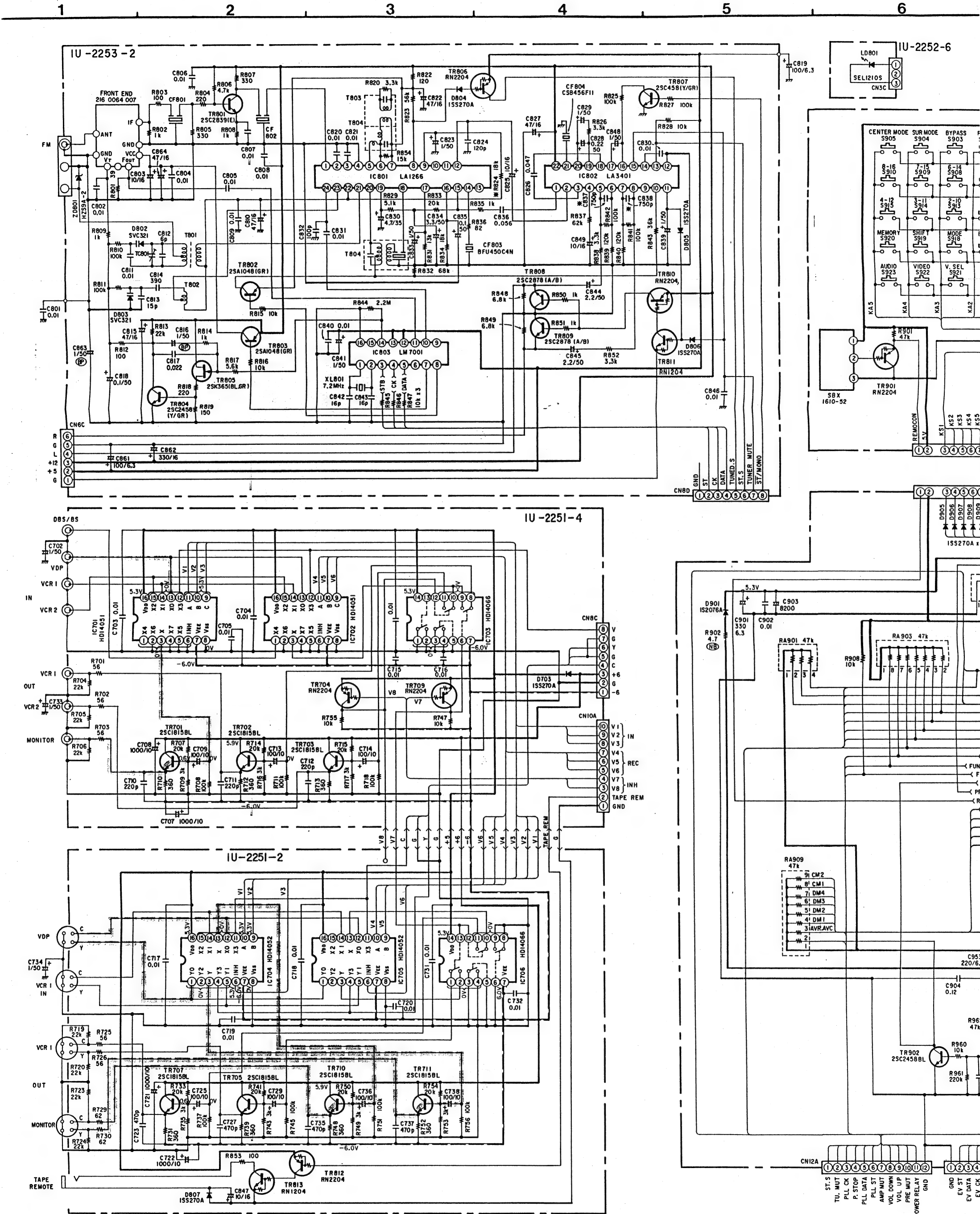
SCHEMATIC DIAGRAM (1/3) Main Section



	Unit No.			
	Front Amp	Input Unit	Surround Amp	Rear Center Amp
U.S.A. model	1U-2250	1U-2251	1U-2252	1U-2253
Canada model	1U-2250	1U-2251	1U-2252	1U-2253
Multivoltage model	1U-2250C	1U-2251C	1U-2252C	1U-2253C

	Power Trans	C837, 838	R824	D999
U.S.A. model	233 5888 005	750 PF	18K	—
Canada model	233 5888 005	750 PF	18K	—
Multivoltage model	233 5890 006	510 PF	33K	1SS270A

NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM.
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO.
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO CIRCUT AND PARTS ARE SUBJECT TO CHANGE WITHO



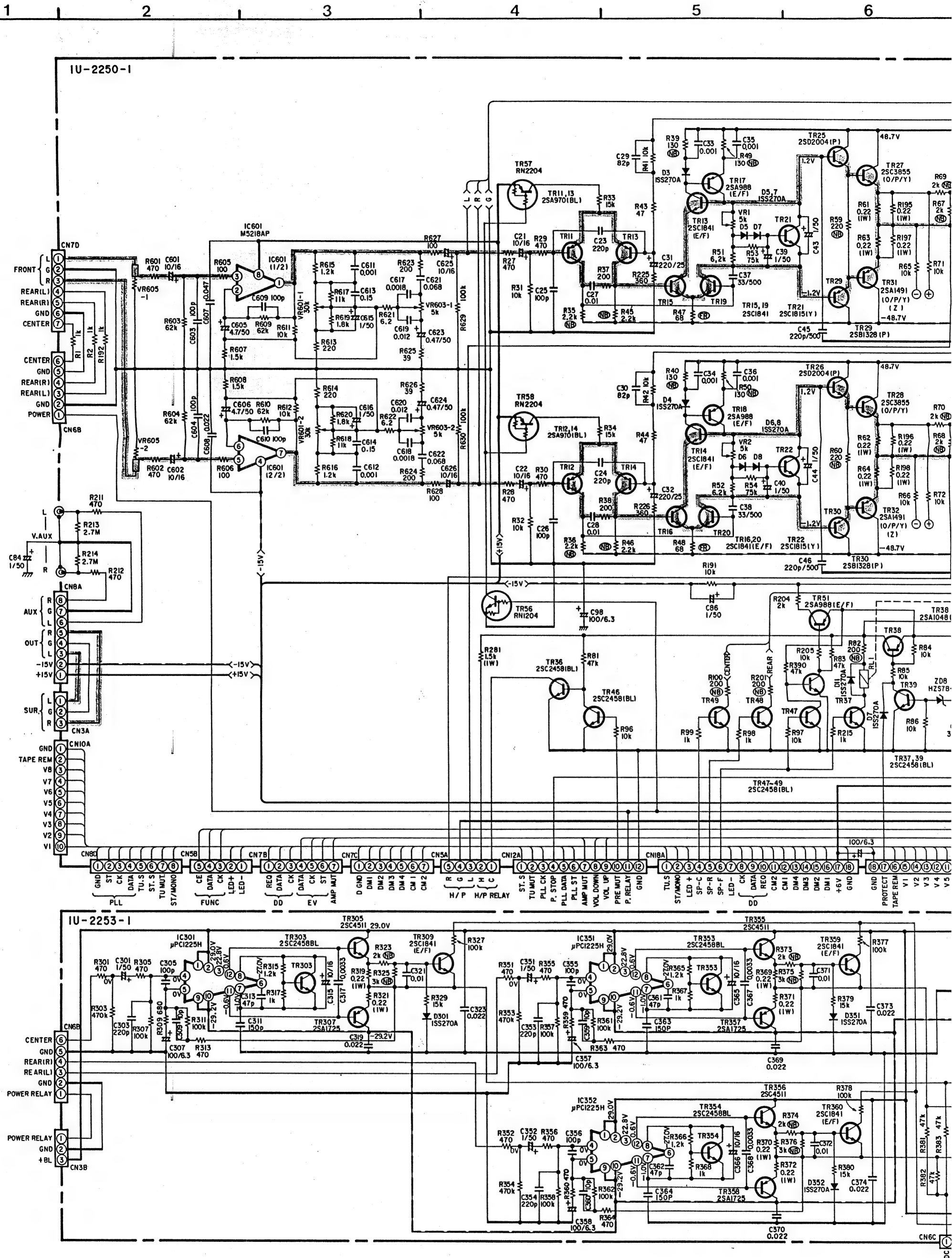
WARNING:
Parts marked with this symbol  have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamperes, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.

NOTES
ALL RESISTANCE VALUES IN OHM. k=1,000 OHM, M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICROFARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDIT
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

SCHEMATIC DIAGRAM (3/3) Audio Section



NOTES
ALL RESISTANCE VALUES IN OHM. K=1,000 (KILLOHMS)
ALL CAPACITANCE VALUES IN MICRO FARAD (MICROFARADS)
EACH VOLTAGE AND CURRENT ARE MEASURED AT THE POINT INDICATED
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE

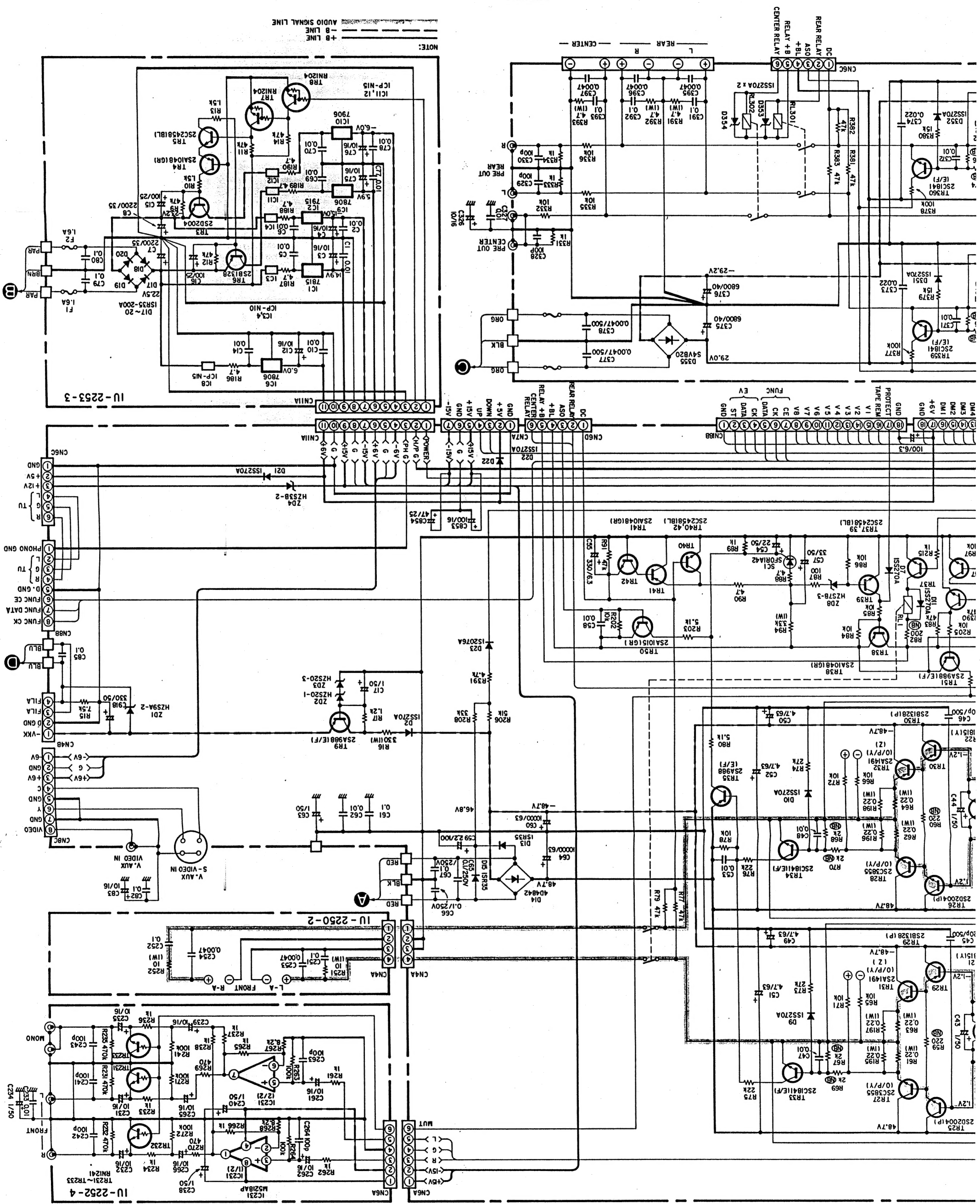
STANCE VALUES IN OHM, K=1,000 OHM, M=1,000,000 OHM
CAPACITANCE VALUES IN MICRO FARAD, P=MICRO-MICRO FARAD
VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

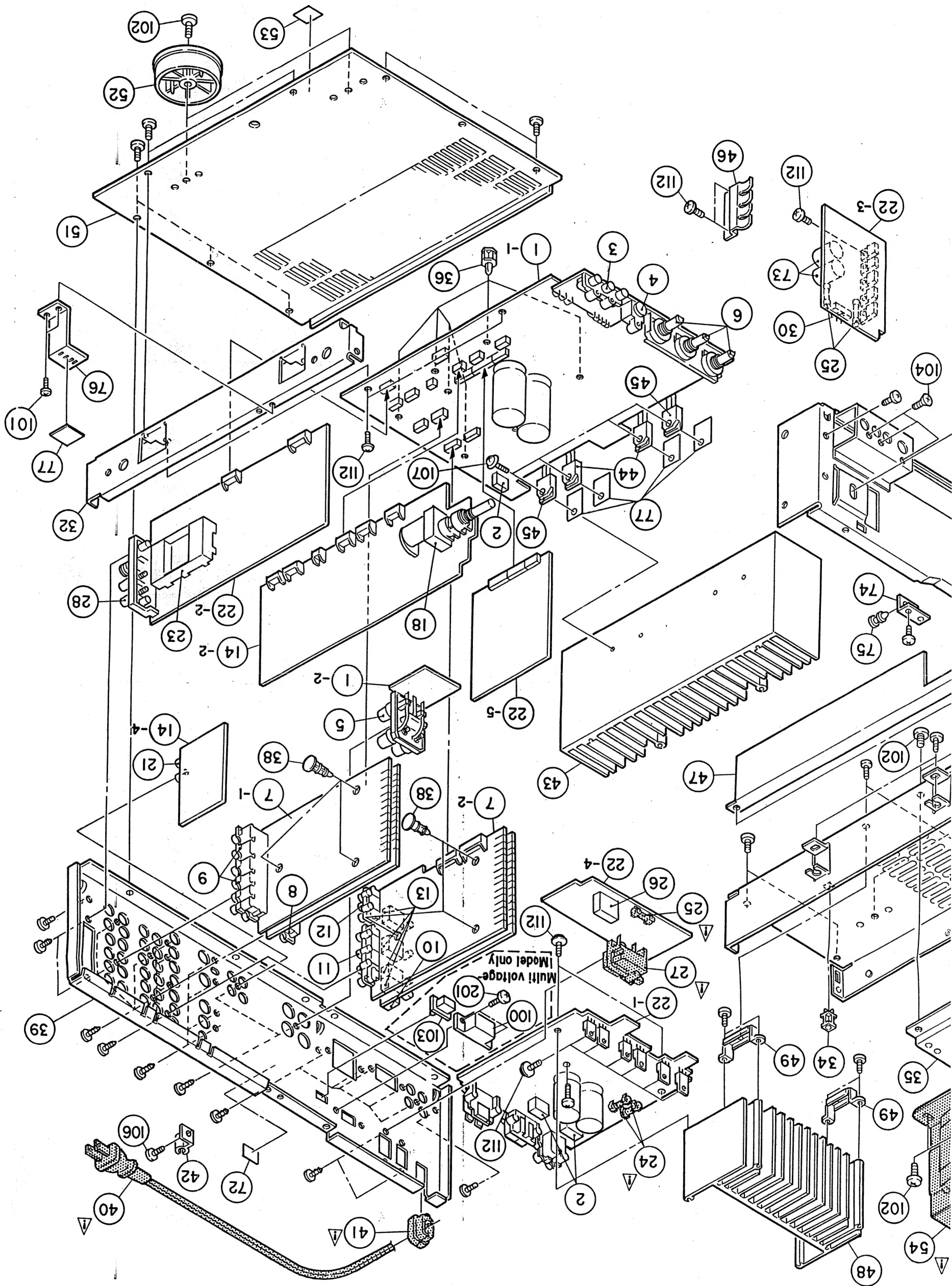
WARNING:


Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to chassis resistance check. If the leakage current exceeds 0.5 milliamperes, or if the resistance from chassis to either side of the power cord is less than 240 kohms, the unit is defective.

CAUTION:
Parts marked with this symbol  have critical characteristics. Use ONLY replacement parts recommended by the manufacturer.

DO NOT return the unit to the customer until the problem is located and corrected.

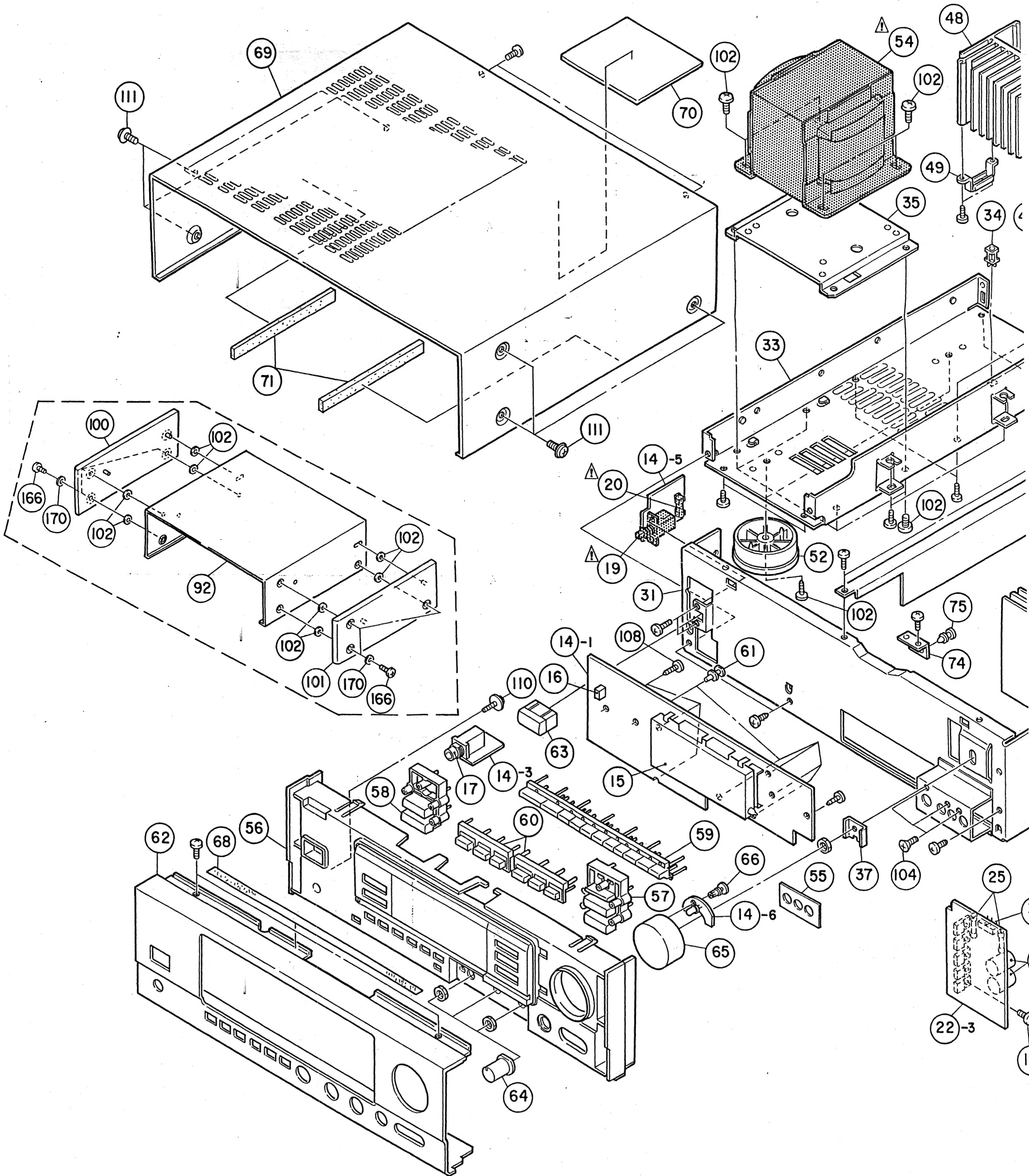




WARNING:
 Parts marked with this symbol  have critical characteristics.
 Use ONLY replacement parts recommended by the manufacturer.

XPLODED VIEW OF CHASSIS AND CABINET

1 2 3 4 5 6



11 SPECIFICATIONS

AMPLIFIER SECTION

- Power Amplifier

Rated Output:

FRONT:	80 W x 2 (8 ohms 20 Hz ~ 20 kHz with 0.1% T.H.D.)
CENTER:	30 W x 1 (8 ohms 1 kHz with 0.4% T.H.D.)
REAR:	30 W x 2 (8 ohms 1 kHz with 2.0% T.H.D.)
Mode)	(at Dolby Pro Logic Normal

Multi voltage models only

Rated Output:

FRONT:	135 W + 135 W (6 ohms/E.L.J.)
CENTER:	40 W (6 ohms/E.L.J.)
REAR:	40 W + 40 W (6 ohms/E.L.J.)
Mode)	(at Dolby Pro Logic Normal

- Pre-amplifier and Main amplifier

PHONO (MM): 2.5mV/47k ohms	
CD, TAPE-1 and 2, DBS/BS, V-AUX, VDP, VCR-1 and 2: 150 mV/47k ohms	
FRONT, MONO, CENTER, REAR 10k ohm load	
VCR-1 and 2 OUT, TAPE-1 and 2 OUT: 47k ohm load	
20Hz ~ 40kHz \pm 3dB (CD input ~ FRONT PRE OUT)	
20Hz ~ 20kHz \pm 1dB	
74dB (with 5mV input) (PHONO)	
BASS	100Hz \pm 10dB
TREBLE	10kHz \pm 10dB

- Video

Rated input/impedance:	DBS/BS, VDP, V, AUX VCR-1 and 2: 1V-p/75 ohms S-termina/VCR-1, V, AUX, color signal: 0.286 V-p-p/75 ohms
Rated output/impedance:	Brightness signal: 1 V-p-p/75 ohms VCR-1 and 2, MONITOR: 1 V-p-p/75 ohms S-termina/VCR-1, MONITOR, color signal: 0.286 V-p-p/75 ohms
Video frequency response:	Brightness signal: 1 V-p-p/75 ohms VIDEO INPUT 5 Hz ~ 6 MHz +0, -3 dB; S INPUT 5 Hz ~ 10 MHz +0, -3 dB
Surround	Dolby Pro Logic ~ Wide - Normal - Phantom - 3-ch logic
Delay circuit:	Simulated Hall Spectrae
Surround modes:	Studio

- Remote control unit (RC-139)

Learning function
System remote control with

Weight:

Maximum external dimensions:

Power consumption:

Power supply:

GENERAL

Usable Sensitivity:

Signal to Noise Ratio:

Receiving Range:

[AM]

Total Harmonic Distortion

(at 1 kHz):

Signal to Noise Ratio

(IHF-A):

Sensitivity:

50 dB Quieting

Usable Sensitivity:

Receiving Range:

[FM] (note: μ V at 75 ohms, 0 dB = 1×10^{-16} W)

For purposes of improvement, specifications, and design are subject to change without notice.

87.5 MHz ~ 108 MHz	STEREO	75 dB	MONO	80 dB	STEREO	23 μ V (38.5 dB)	MONO	1.6 μ V (15.3 dB)	STEREO	0.9 μ V (10.3 dB)	MONO	522 kHz ~ 1611 kHz (for multi-voltage model).	18 μ V	50 dB	120 V AC, 60 Hz (for U.S.A. and Canada models).	110/220 V AC, 50/60 Hz (for multi-voltage model)	4.4 A (for U.S.A. and Canada models)	434 (W) x 140 (H) x 421 (D) mm	(17-3/32" x 5-33/64" x 16-37/64")/AVR-810	470 (W) x 140 (H) x 421 (D) mm	(18-1/2" x 5-33/64" x 16-37/64")/AVR-810G	12.5 kg (27 lbs 10 oz)/AVR-810	14 kg (30 lbs 14 oz)/AVR-810G	Total buttons: 64	DENON system code	CD player: 15 buttons	Cassette deck: 8 buttons	DAT: 8 buttons	VDP: 8 buttons	System call buttons: 5 (maximum of 5 codes per button)	AVR-810/810G fixed codes: 41 buttons	Programable remote control	Maximum total: 37 program	Batteries: NiCd/AA (two batteries)	External dimensions: 70 (W) x 215 (H) x 18 (D) mm	(2-3/4" x 8-15/32" x 45/64")	Weight: 170 g (Approx. 6 oz) including batteries
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